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ABSTRACT

Of the 400,000 graduates in the United Kingdom in 1998, more than 200,000 had first degrees and the others had undergraduate or postgraduate qualifications. More than one in three graduates had already undertaken paid work while still in school (primarily in the service sector). The demand for graduates among the traditional recruiters and reports of recruitment difficulties have increased steadily over the past few years. Although starting salaries offered by recruiters have grown fast, in the longer term they have simply tracked changes in average earnings in the work force. Vacancies among the major recruiters were largely bounding back from the low point of the last recession and were not much higher than in the late 1980s. Many graduates are taking more than 1 year (and sometimes up to 3 years) to find their way into permanent jobs and careers. Those graduating in medicine and related subjects, education, computer science, engineering, and mathematics have moved into high-level jobs the fastest and have enjoyed the lowest unemployment rates. The numbers of graduates are expected to be broadly stable for the next 3 years. Forty-one tables/figures are included. The addresses of 14 data sources are provided. (Contain 53 references.) (MN)

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The IES Annual Graduate Review 1998–1999: the key facts

R Pearson
S Perryman
H Connor
N Jagger
J Aston

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Executive Summary

Introduction

The graduate labour market is a key interface where employers seek a high proportion of the highly educated, young recruits they need in order to ensure their long-term competitiveness. It is where increasing proportions of the brightest in our society enter the world of work. This market is, however, in a state of flux with, for example, employers complaining they cannot get the skilled graduates they need, while the numbers graduating are at record levels. Many graduates cannot find what they regard as relevant jobs and are taking longer to move into 'permanent' employment. Looking ahead, the introduction of fees and abolition of maintenance grants will further raise the cost of higher education. This Annual Graduate Review, first published in 1982 and funded by the IES Research Club, sets out to detail and interpret the key trends in higher education and the graduate labour market.

The increased numbers graduating have diverse characteristics

Over 400,000 students graduated in 1998; over 200,000 had first degrees and the others undergraduate or postgraduate qualifications. This is more than double the numbers of a decade ago. Despite this growth, entry to some key disciplines (physical sciences, and engineering and technology) have been falling in recent years, as has the proportion on sandwich courses. Women now form the majority of entrants to first degrees but are still underrepresented on maths, physical science, and engineering and technology courses. Much larger proportions go into social sciences, languages, biological sciences and education. Ethnic minorities are well represented relative to their numbers in the population at large. There are, however, major differences between ethnic groups with (for example) Afro Caribbean men and Asian Indian women having low participation rates, while participation by Asian males is high.

More are working while studying

Already more than one in three students undertakes paid work during their course. The majority work in the service sector and while the level of their jobs may not be high, such work

experience can be beneficial their to long-term job search. Indeed, some American research suggests that limited term-time working can also be beneficial to their study and degree results. Although reliable estimates of debt levels are not available, a student who has neither worked nor received parental or other financial support during term time is believed to be graduating with debts of up to £5,000. The abolition of the maintenance grant and the introduction of means tested fees and loans mean that the cost of getting a degree is set to rise further.

The changing demand from the major recruiters

The demand for graduates among the traditional recruiters has grown steadily in the last few years with economic expansion, as have reports of recruitment difficulties (although these are not as severe as in the late 1980s). While starting salaries offered by these recruiters have also grown fast, averaging £16,500 in 1998, in the longer term they have simply tracked changes in average earnings in the workforce. While vacancy levels appear high, they are largely a bounce-back from the low point of the last recession; current vacancies among the major recruiters are not much higher than they were in the late 1980s. However, these major employers, who dominate the headlines about graduate recruitment, only recruit a small minority of the 160,000 moving into the labour market each year, and many new graduates are going into lower level jobs.

Where do graduates get jobs?

Last year one in three graduates went into fixed-term or temporary appointments, while many of those moving into permanent jobs went into lower level jobs and were not using their graduate skills. Many are taking more than a year, and sometimes up to three years to find their way into permanent jobs and careers. Those graduating in medicine and related subjects, education, and computer science, engineering and maths have been the most likely to move quickly into high level managerial, professional or technician jobs and have the lowest unemployment rates. By way of contrast, those with degrees in biological science, the humanities, the social sciences, and from creative arts degrees have had the highest initial unemployment rates, and are the least likely to be in managerial, professional or technician level jobs. Many new graduates went into jobs paying salaries in the range £10-15,000, well below the headline figures of the major graduate recruiters. Typical earnings for those who graduated three years ago were still only £16-17,000 pa, on a par with that being paid to new starters in the largest blue chip companies. Graduates do, however, continue to earn more than those with lesser qualifications and have lower unemployment rates.

The longer-term balance between supply and demand

The numbers graduating are expected to be broadly stable for the next three years. Current government backing of limited expansion in higher education will than show as a slight growth in numbers.

The state of the economy is the key determinant of overall demand and at the time of writing the economy is on the turn with much of manufacturing and parts of the service sector such as retailing in, or moving into, recession. The complexity of economic and organisational change mean that not only is difficult to forecast the level of jobs and vacancies, it is also difficult to articulate the precise skills needed. To then identify potential recruitment difficulties and surpluses further factors have to be taken into account. The supply side is increasingly diverse. More graduates are delaying their entry into the market, and are entering jobs not previously filled by graduates (often displacing non-graduates). Employers may also be using adjustment mechanisms such as raising salaries and adjusting reward packages, redesigning jobs, retraining, or recruiting older entrants.

Over the longer term the number of managerial, professional, technical and high level jobs is growing, which will lead to a rising demand for graduates, despite short-term recessionary dips. But the number of openings for new graduates is not, however, expected to grow fast enough to absorb the increased numbers graduating.

With the cost of a degree rising and the returns to a degree falling, students will have to be increasingly flexible in how they invest in their higher education and view long-term career options. They will need to seek better careers advice, question their choice of course more carefully, and become more demanding in terms of the educational experience they receive in higher education, if they are to maximise the value of their degree.

For employers, while the numbers graduating are likely to be more than adequate, the critical challenge will be to get graduates with the right skills and competencies. The graduates in most demand will be those who combine intellectual with personal attributes and skills, in areas such as team-working, motivation and communication along with the ability to continue learning. These personal attributes will also be important for those going into technical areas where good specialist knowledge (for example, in computer science or engineering) will rarely be enough. Working and communicating with non-specialist customers and colleagues is increasingly required: the days of the boffin working in isolation are long gone.

There is expected to be a sustained demand for the 'best' graduates, and, despite the large numbers graduating, recruiters

are likely to continue to experience difficulties attracting high achievers with good personal skills. Such difficulties will, however, be reinforced for those employers who set overly restrictive, and often inappropriately high personal specifications and selection parameters, and who continue to focus their recruitment on a sub-section of the market, usually the more traditional universities. The desire to target and focus their activities is understandable, faced with up to 150 campuses and potentially thousands of applicants. However, reflection on their actual needs and what they can offer by way of jobs and careers can make for a much more effective recruitment process and satisfactory outcome, with a more realistic match between recruits and jobs and better long-term performance and retention.

1. Introduction

1.1 Introduction

The graduate labour market is a key interface where employers seek many of the highly educated young recruits they need in order to ensure their long-term competitiveness, and where increasing proportions of the brightest in our society enter the world of work. This market is, however, in a state of flux:

- the numbers graduating are at record levels while the characteristics of those graduating are increasingly diverse
- the world of work is becoming more complex and the nature of jobs changing more rapidly
- employers complain they cannot get the skilled graduates they need as their source of new skills and knowledge workers of the future
- yet many graduates cannot find what they regard as relevant jobs and are taking longer to move into 'permanent' employment
- the introduction of fees and abolition of maintenance grants is raising the cost of higher education
- the number of entrants to higher education could grow further: more would-be students are questioning choices as the costs rise and the benefits become less certain
- many of those running higher education struggle to meet the wider needs of a disparate client base with limited financial resources, and are unclear how to shape provision to meet the needs of the next century.

What then is happening at the interface between higher education and employment, and how will this key labour market develop in the next few years?

This Annual Graduate Review, first published in 1982, sets out to describe and draw out the key parameters and trends in higher education and the graduate labour market. It has been funded by the IES Research Club, a consortium of 27 employing organisations. As such, the prime focus is on the interests of employers but the implications for graduates and higher education are also drawn out. This report is in six further sections as follows.

1.2 The key data

Chapter 2 details the changing population of young people, the traditional entrants to higher education, in terms of overall numbers, 'A' level passes and overall applications trends. It then looks at the numbers entering higher education, the differences between subjects, and the personal characteristics of students in terms of their age, gender, previous qualifications, ethnicity and disabilities. Chapter 3 then looks at how students are being financed in terms of loans, term-time working and levels of debt, and their expectations regarding future earnings.

The flow into employment and other destinations is examined in Chapter 4 which details employment, unemployment and earnings patterns, along with the employer perspective in terms of recruitment difficulties and their recruitment methods. Graduates' longer-term employment experiences are considered in Chapter 5 which details the lengthening time periods being taken to move into 'permanent' employment, the extent to which their skills are being used, and their earnings and retention in first jobs. Selected data is presented in Chapter 6 which place the UK position in an international context. Finally Chapter 7 looks ahead in terms of the numbers likely to be graduating, the changing nature of employer demand and likely shortages in the future.

In recent years many of the statistical sources have improved and the Labour Force Survey has evolved to provide an additional, valuable source of data about graduate employment. Unfortunately the key sources, from UCAS, HESA, and the Labour Force Survey use different subject classifications which at times make it difficult to follow through trends and data sets relating to (for example) applications to higher education, student numbers, outputs and subsequent employment patterns. The sources used are noted on each of the Tables and Figures.

Appendices provide a detailed bibliography and list of key information sources.

2. Students

2.1 Introduction

Higher education has been through a decade of unprecedented growth and change. This chapter focuses on the flow of students into and studying in higher education with the prime emphasis being on undergraduates. It looks at:

- the flow into higher education, including trends in the population of young people, the traditional entry group, their participation rates in education at the age of 18 and the proportions taking 'A' levels (these being key determinants of progression to higher education) and recent trends in applications for places on first degrees.
- the numbers currently studying, in particular changes to first year student numbers by level, subject and those on sandwich courses.
- the changing personal characteristics of the student body in terms of their age, gender, ethnicity and the proportions who have disabilities.

Key parameters are placed in an international context in Chapter 6. Chapter 3 focuses on student funding, other chapters look at the flow out of higher education, focusing particularly on those going into the labour market, with the final chapter considering future trends in the supply of graduates and potential demand in the labour market.

2.2 Potential entrants into higher education

Young people have been and remain the traditional entry group into higher education, they accounted for 71 per cent of full-time entrants to degrees in 1997. The doubling of numbers in higher education in the last decade took place against a backdrop of two contrasting trends. First, the declining numbers of 18 year olds, the so called demographic trough, reached its low point in 1996 when there were some 30 per cent less 18 year olds than a decade earlier (although the downturn was far less dramatic among the middle classes). As most entrants to higher education come from the higher social classes the demographic decline had far less impact on student demand than had originally been expected in the 1980s (Connor *et al.* 1996a). Since 1996 the

numbers of 18 year olds have, however, started to grow again and are expected to continue expanding well into the next century, reaching a peak of about 670,000 (a rise of 24 per cent) in 2010, before starting to fall again.

Running counter to the demographic downturn has been the rise, until recently, in the participation rates of 18 year olds staying on in education (Figure 2.1). This rise has been prompted by a number of factors including encouragement by the government and the education system to engage students in education longer, and the emphasis being given to the greater rewards that go to those with higher levels of qualifications in what is becoming a knowledge society. The poor economic prospects in the early 1990s also meant that few employment opportunities existed for those wishing to leave school. In 1997 participation rates in full-time education fell for the first time. The reasons for this decline are unclear, but it may in part be prompted by the improved economy and availability of jobs. The number of students passing 'A' levels in each of the last two years has also fallen (Figure 2.2), some of this decline may be accounted for by the growth in numbers taking GNVQs. Participation rates in training schemes continued to rise.

Despite these downturns, overall applications for full-time degree courses have continued to grow, with the growth rate in applications from women (25 per cent over the last four years) exceeding that of men (15 per cent). Much of this growth was driven by a surge in applications to first degree courses in 1997 to beat the introduction of fees which became payable by those from families on higher incomes from 1998 onwards (Figure 2.3). The early figures for 1998 show that to date, there has been a three per cent decline compared with the 1997 record figures, although applications in 1998 are running at higher levels than in 1996. While applications from students aged below 21 remain at a similar level to last year, there has been a marked decline in mature students where applications from those aged 21-24 have decreased by almost ten per cent, and those aged 25 and over have decreased by nearly 15 per cent (UCAS 1998b).

While the majority of applicants have offers of places by the time they receive their exam results in the summer, a growing proportion finalise their place through the clearing system whereby universities and colleges notify UCAS of unfilled places in the month before the start of the academic year. The number and proportion of students entering through clearing has increased steadily in recent years, from just over 15 per cent in 1994 to almost one-fifth of home entrants in 1997, with some universities recruiting up to one in three of their entrants via clearing. This increase is due to a number of reasons including the growing complexity surrounding choice of degree courses, unrealistic expectations, more students deciding to enter HE at later stages of the year than traditionally, and finally that some universities and colleges of higher education have insufficient

students making them their first choice, leaving them increasingly reliant on clearing to achieve their recruitment targets. A recent study suggests that students accepted through clearing are among those least likely to be satisfied with the choices they had made and with their subsequent higher education experience as a whole (Ecctis 2000, 1998). As a result there are some calls for an admission system which would accept applications after, instead of before, 'A' level results.

2.3 Students starting first degrees

There are now over 1.7 million students in higher education, a near doubling over the last decade. While most of the attention is focused on full-time first degree students they only account for half of those studying in 1996-97; another ten per cent were studying part-time for first degrees, while the balance was split between other undergraduate courses, and postgraduate study where the numbers of full- and part-time students were broadly in balance.

There were almost 280,000 entrants to full-time, first- degree courses in 1997. The largest subject groupings were social studies, and business and administration, each with over 25,000 admissions, and those on combined studies courses (almost 45,000 entrants). The smaller subject groupings included the humanities, education, and the physical sciences, each with 15,000 or fewer entrants; engineering and technology attracted under 20,000 entrants (Figure 2.5). The subjects showing the greatest growth[1] have been computer science, librarianship and information science, creative arts and design, and subjects allied to medicine, all expanding by more than 15 per cent over the last two years, well ahead of the overall expansion of four per cent. More surprising has been the decline in entrants to physical sciences, engineering and technology, and education, each down by nearly ten per cent, and languages (down by five per cent) (Figure 2.6).

Despite increasing awareness of the benefits that work experience can bring (*eg* Dearing, 1997) the proportions on sandwich courses have fallen steadily since 1995. Although reduction in sandwich course provision is apparent across almost all subjects, the largest drop is in computer science (almost five per cent down). Mathematical sciences, business and administrative studies and engineering and technology have also shown falls of more than three per cent (Table 2.1). At a time when employers increasingly demand work-ready graduates, with relevant skills and experience in the workplace in addition to a degree (Harvey *et al.*, 1997), this fall in sandwich course provision seems strange.

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[1] The data on first year students (Figure 2.6) comes from a different source (HESA) to that on entrants (Figure 2.5, UCAS) and the subject classifications are not compatible.

However, there are both supply and demand factors which could be bringing about this downward trend. Firstly, sandwich courses are costly to run, requiring a lot of dedicated staff time to organise and supervise placements and support students to ensure work experience is of a high quality. The reductions in funding per student make such provision a casualty. The supervision costs for employers is another constraint, while demand for sandwich courses, which are usually four rather than three years in duration, may also be changing as students avoid incurring the debts of an extra year of study. Whilst some sandwich placements are paid, some are not and from 1998 students will be required to pay £500 towards course fees during their placement year. This too is likely to reduce student demand for sandwich courses.

2.4 Who are the students?

As the numbers entering higher education has grown dramatically, so the characteristics of the student population have become increasingly diverse. This diversity is not just a social phenomenon, it also represents a profound challenge for educationalists, recruiters and employers who have to adapt their traditional policies and practices to meet the more diverse needs and expectations of the modern student body and population of graduates.

Women now form the majority of entrants to first degree courses although their subject profile continues to be markedly different from that of men. In particular women are most likely to be found on social science, medicine and allied topics (*eg* nursing) education, languages and biological sciences. Men continue to form the majority in the physical sciences, engineering and technology, and mathematical sciences, which includes computing (Figure 2.5).

There is also considerable variation in terms of the age of the students studying different subjects. The majority of first degree students across all subjects are under 21. Subjects which have been traditionally male dominated are also dominated by young students. Almost 90 per cent of those taking physical science degrees are under 21, as are nearly 85 per cent of those studying languages and related topics, business studies, and biological and agricultural sciences. Education and creative arts are the most common areas of study for mature students; more than one-quarter being aged 21 and over (Figure 2.5).

Most first degree students (70 per cent) entering in 1997 were accepted on the basis of traditional, non-vocational qualifications (*ie* 'A' levels or Scottish Highers). This pattern is particularly strong in medicine and dentistry where virtually all entrants hold non-vocational qualifications, but also in languages and physical sciences where such students account for over 90 per

cent of the intake. There are higher proportions of traditionally vocationally qualified entrants in areas such as creative arts (42 per cent) where many degree courses require some previous vocational study or portfolio preparation. More than a quarter of entrants to business studies, education and mathematical sciences hold vocational rather than academic qualifications. Engineering and technology, and subjects allied to medicine (which includes nursing) also have relatively high proportions of vocationally qualified entrants (Figure 2.7).

Despite the wishes of policy makers to widen the social class composition of higher education there has been very little change in the composition of entrants to full-time, first degree courses with entrants from families in social classes I and II, (professional and managerial) still accounting for over half of the entry. The proportions are, however, changing slowly, and in the last four years proportion of entrants from classes IIIM, IV and V have grown slowly to 24 per cent. There are, however, marked differences between universities and colleges in terms of their proportions from the different social classes.

Almost one-third of accepted home applicants to degree courses are from comprehensive schools. Independent schools, sixth form colleges/centres or other further education establishments each provided around one-sixth of the total accepted applicants (Figure 2.8).

Attempts to widen participation are not just focusing on social class, they are also seeking to increase the overall numbers participating from the ethnic minorities. Students from ethnic minority backgrounds studying full time are well represented in higher education relative to their numbers in the population at large. There are, however, large variations between subjects with larger proportions of ethnic minorities studying medicine, mathematics and business studies, while ethnic minority students are less likely to be found on humanities, education, languages, and creative arts degrees (Figure 2.9). There are also large differences between the different ethnic minority groups. The Asian Indian ethnic group have the highest representation in higher education, while there is general under-representation of Moslem women and young Black Caribbean men in higher education. There are also marked differences between the subjects studied by the different ethnic groups with students of Asian origin (all groups) far more likely to be studying medicine, while mathematics is also popular amongst students of Asian origin (all groups) as well as students of Black African origin. Combined degrees, social studies and, to a lesser extent, business studies, are most popular amongst students of Black Caribbean, Black African and Black Other origin (HEFCE, 1998).

Finally, in 1997 just under four per cent of first degree students were known to have a disability, another group for whom access is being widened and encouraged. Of these, almost half have an unseen disability, *eg* diabetes, epilepsy, asthma or mental health

problems. A further twenty per cent have dyslexia. Less than one in ten of those with disabilities, (*ie* less than one in 200 of all students) have mobility difficulties or are wheelchair users, less than ten per cent are deaf or have a hearing impairment, while four per cent are blind or partially sighted (Figure 2.10).

3. Student Fees and Incomes

3.1 Introduction

The introduction of means tested fees for students and the abolition of the maintenance grant have been the most radical changes affecting higher education since the abolition of the binary line and the creation of the 'new' universities at the start of the decade. This increase in the costs for students comes at a time when the economic returns to higher education have been falling and graduates have been taking longer to make the transition into employment, trends that have been driven by the doubling of student numbers in the decade to the mid 1990s. This chapter examines:

- the changing face of student finance, including the increasing numbers undertaking paid employment, and
- student expectations regarding debt and earnings after graduation.

Actual starting salaries and longer-term employment experiences are considered in Chapters 4 and 5.

3.2 Student finance and term-time working

As the value of the maintenance grant for full-time undergraduates has fallen, the amount they could borrow via a government backed loan has increased. With the introduction of fees and the final abolition of the maintenance grant this year the maximum loan[1] offered to the typical student has been increased to £3,145 pa. This has to be paid back only when their income reaches £10,000 a year, but this threshold is now lower than when originally set at 85 per cent of national average earnings. That would have given a current threshold of about £16,500. As such the revised threshold means that more students will have to repay their loans sooner.

[1] Loans are available to full-time students aged under 50 on full-time courses in HE below postgraduate level and lasting one year or more, and on full- and part-time postgraduate certificates of education (PGCE).

Since their introduction in 1991, the proportion of students taking out an official Student Loan Company loan has increased each year and now averages almost one in three. Men are more likely to take out loans than women, although the gap is narrowing (Figure 3.1).

While the majority of current full-time students receive LEA grants, these are means tested and in many cases the amounts received are small. As many as 60 per cent of eligible students now have a loan, and loans are the main source of income for 22 per cent of full-time, first degree students. The Student Loans Company is the main source of borrowing for two-thirds of them, others having loans from the banks, their parents and other sources. In 1991/92 the Student Loan Company advanced loans to 261,100 students with a total value of £139m. By 1996/97 the numbers had increased to 589,600 students and an overall debt of £877m.

Two-thirds of those with loans said they used them to cover day to day living costs, one-quarter used some or all of the money for summer travel and vacations, and one in six used it to fund a major purchase, *eg* hi-fi equipment or cars (High Fliers, 1998b).

While most students receive some form of grant and/or a loan, the propensity of full-time students to work (*ie* in employment or seeking work) during term time has increased from 29 per cent to 38 per cent over the seven years to 1998. With the proportion actually working rising from 16 to 28 per cent, the proportion still actively seeking, but unable to find work, has fallen (Figure 3.2). A separate survey has suggested rather more were working, with 35 per cent saying they earned money from part-time work during term time, while 48 per cent worked at some time during the year (Barclays, 1998).

The same survey showed that the most common reason for working during term time was to obtain money for socialising, to buy necessities and control debt levels. Although money was clearly an important factor, around 21 per cent of students saw another benefit in working, namely access to work experience. Among the students who did not work, 12 per cent had sought but failed to find employment, while one-quarter did not work because they did not need the money (Figure 3.3). The majority of those not working in term time were fearful of the impact on either their final degree results, or coursework and chose not to take a job as a result. Recent American research, however, has suggested that working a few hours enhances grades (Stone, Mortimer, 1998; Van der Water, 1998).

Women were as likely to be working as men, and part-time working was the norm, with 93 per cent of those in employment working part time. The average (mean) number of hours worked by men was slightly higher at 15 hours per week than for women, who worked 12 hours on average.

Students were typically earning around £52 a week during term time, before deductions. A small number of particularly well paid students pushed the mean earnings figure up the scale to £68 a week, with one in four students earning in excess of £86 a week. At the other end of the scale, the least well paid quarter earned less than £33. The typical hourly rate was £4 an hour (Barclays, 1998).

The service sector accounts for nearly all of student employment with the wholesale, retail and motor trades and the hotels and restaurant sector offering the bulk of employment opportunities (Figure 3.4). While a large number of students value the work experience their jobs give them, and while the majority do not appear to work in 'professional' areas, this work experience may well offer benefits in terms of the development of customer and service skills, confidence and personal skills.

3.3 Expected levels of debt and earnings

As the costs rise, students are being encouraged to give greater attention to both the costs and the benefits of higher education. Unfortunately there is as yet little reliable, up to date information on the real costs and benefits of different types of course, indeed these will vary according to the circumstances and aptitudes of the individual student.

As the numbers eligible for loans have increased so has the proportion who have deferred repayment[1] because their income was not high enough. Of graduates who were due to begin repayments in 1992, 43 per cent were granted a deferment as their income was too low. Among those who should have started to repay their loans in 1996, 69 per cent did not have sufficient income to do so. These trends mirror the increased time being taken by graduates moving into well paid employment, with greater numbers moving initially into temporary and low-paid employment on graduation (Chapter 4).

There is no reliable data on the level of expenditure likely to be incurred by a 'typical' student, but the National Union of Students has estimated the income and expenditure of a typical first year student commencing study in 1998/99 for a 38 week term. They estimate expenditure of £4,476 outside of London, excluding fees; the figure includes rent of £1,679 and food cost of £1,011. Typical income is estimated to be a grant of £810 and a loan of £1,998, plus any parental contribution and earnings during the year. The latter would need to average nearly £1,700 for the figures to balance, plus the cost of fees paid which are means tested up to £1,000 pa (NUS, 1998). Assuming a three year

[1] As deferment is granted for one year at a time, the number of people who are granted deferment for further years will swell the overall total.

course, total debt could be over £7,000 in the absence of parental contributions and earnings during the course.

In practice students' expectations as to the costs of higher education and likely initial earnings after graduation vary widely. Potential students in their last years of schooling estimated their debt at the end of their course, including tuition fees and maintenance costs, to be just under £7,000, with women being consistently more pessimistic about the level of likely debt than were men (Guardian, 1998). Other surveys based on the experiences of undergraduates have suggested far lower expectations by third year and final year undergraduates, at £2,570 and £4,453, excluding fees (Table 3.1).

The other part of the 'rate of return to a degree' calculation is expected earnings. Expectations of those graduating in 1998 were in the range £13,500 to £15,300 with male students expecting higher initial earnings. While the figures are higher than those likely to be achieved (Chapter 4), the reality is that men do also earn more than women. Female graduates typically earned £12,584 while male graduates earned £14,768 in 1998 (Table 3.2). Further information on employment patterns and earnings are contained in Chapters 4 and 5.

4. Graduate Entry into Employment

4.1 Introduction

The numbers of those entering higher education have grown dramatically and their personal characteristics are more diverse than a decade earlier. The levels of debt incurred while studying have also been rising. This chapter now looks at:

- the growth in the numbers graduating
- their flow into employment, unemployment and other destinations
- their initial earnings, and
- the extent to which they are meeting the needs of the major graduate recruiters.

4.2 Graduation rates

In 1997 some 427,000 students graduated from higher education institutions in the UK. Although the growth in numbers entering higher education has levelled off in recent years, the number graduating is still more than double that ten years ago. Just over half of those graduating in 1997 (230,000) obtained a first degree, about 109,000 completed postgraduate courses, and 62,000 sub-degree courses (*eg* HNDs) (Figure 4.1).

The largest subject groupings at first degree level were business and administration; engineering and technology; and social, economic and political studies — all subjects that have a vocational dimension. The subjects growing fastest in the last three years have been business and administrative studies, and creative arts and design, while the numbers graduating in engineering and technology, maths and physical sciences, and the humanities all fell last year (Figure 4.2). Paragraph 3.2 also showed that the numbers entering engineering and technology; maths and physical sciences have been falling meaning that the numbers graduating in these key disciplines will continue to fall into the next century.

There has been much talk of degree devaluation, but 'quality' in this sense is difficult to measure. However, it is possible to look at the proportions of graduates being awarded different classes of degree. Assuming that the 'quality and level' of a given degree

class has not changed, the data show that over the past three years at least, there has been no acceleration in the numbers being awarded higher classes of degree. There is, however, great variation by subject area with, for example, firsts and 2:1s being most common in the humanities and languages, and the least common in engineering and technology, and computer science.

4.3 Entering employment

Graduates move on to a multitude of destinations after graduation. One in five[1] moved into further study or training in 1997, while small numbers moved overseas (two per cent in 1997) and yet others withdrew from the labour market. The majority, however, enter, or seek employment and their success is dependent on the state of the economy. With the improved economic conditions, more than half of new first degree graduates had found employment within six months of graduation in 1997, an improvement on previous years, while there was a corresponding drop in the unemployment rate to 6.4 per cent six months after graduation. Self-employment remains a minority interest involving only 1.4 per cent of new graduates, the vast majority of whom had completed courses in the creative arts (Figure 4.3).

Despite the increased numbers graduating, both the number and proportion of graduates obtaining permanent employment has increased in each of the last six years. Interestingly, the numbers working on fixed-term contracts fell in 1998 after several years of growth: it is not clear why this happened, as the numbers in other types of temporary work continued to grow (Figure 4.4).

While the majority of those entering employment found jobs in managerial, professional and associate professional roles, one in five new graduates accepted work in roles that would not traditionally have been classed as 'graduate' level employment. There were major variations according to the subject studied, with those from computer science, engineering and technology, maths, and other professional courses being the most likely to enter managerial, professional or technician level jobs. By way of contrast, those graduating from the humanities, languages and social studies were the least likely to enter such jobs, with fewer than half of those from the humanities and languages obtaining 'graduate jobs' in the first few months after graduating (Figure 4.5). The lengthening period graduates are taking to move into 'permanent' jobs and the 'quality' of these jobs is considered further in Chapter 5.

With the improved economic climate, unemployment rates have fallen over the last five years and the gap between men and

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[1] These data are based on the First Destination Surveys carried out by the universities and colleges in December, six months after the students will have graduated.

women is closing. In Spring 1998 nine per cent of graduates were unemployed nine months after graduation[1], with the rate for women being eight per cent and that for men ten per cent (Figure 4.6). As with other employment parameters, there are major differences according to the subjects studied, with those graduating in creative arts and design, and biological science subjects having the highest unemployment rates, and those in computer science and education the lowest (Figure 4.7).

One measure of the level of employment entered by graduates is shown by the salaries they receive. Unfortunately there are no detailed data for the full range of jobs graduates enter. Data from one university where just under half of their graduates entered employment (*ie* slightly below the national average) showed that their graduates entered jobs with starting salaries ranging from under £6,000 pa to over £20,000 pa. Jobs paying under £10,000 included those of sales assistants, trainee managers, library work, care worker, admin and clerical work. The small numbers receiving over £20,000 were mainly in IT, engineering, legal and sales roles. The majority entered jobs in the range from £10-15,000 pa range. More generally the income levels reported by new graduates in the Labour Force Survey (which include the full range of employment experiences) were typically £12,584 for women and £14,768 for men.

The most widely publicised figures are those paid by the major recruiters who are members of the Association of Graduate Recruiters (AGR). The AGR covers most of the organisations which recruit into graduate programmes, and between them they have recruited up to 30,000 graduates pa in recent years. Among these large recruiters the median starting salary in 1997 was £15,825 which rose to £16,500 in 1998, an increase of 4.3 per cent. Even within this group there was a wide range in the salaries on offer, with a few offering under £13,000 and rather more offering over £20,000 pa (Figure 4.8). Organisations in central London were paying on average up to £3,000 pa more than those outside the capital. These differences reflect both the different types of organisations in Central London and, where paid, the effects of London weightings. Differences between sectors showed highs of over £20,000 pa in legal services, with banking and finance nearer the median, while the lowest salaries were on offer in retailing and the public services.

4.4 Employers' recruitment difficulties

Again the only hard data on employers' recruitment difficulties relates to the experiences of the major recruiters who are AGR

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[1] The following data are drawn from the National Labour Force Survey (LFS) which represents the position nine months after graduation. This source provides longer time series data than do the First Destination Surveys.

members. Their annual data shows that recruitment difficulties have grown rapidly with economic expansion. While this was a period when the number of vacancies among this group had nearly doubled since the depths of recession, the current level of vacancies was still only just above that in the late 1980s. At the same time the number graduating has nearly doubled. In 1998, half of these recruiters experienced recruitment shortfalls, an increase from under 15 per cent in 1993 during the recession. This is a much greater increase than that reported for more general vacancies in the CBI trends survey which has shown only a small upturn in companies' recruitment difficulties (CBI, 1998).

These difficulties with graduates have to be kept in perspective, as among the organisations experiencing the highest reported shortfalls, most of the size of their planned intakes were small, *ie* below ten vacancies each year. The functions experiencing the greatest problems have consistently been IT/computing, and scientific and technical functions. (Figure 4.9). These are also those disciplines where graduate numbers are actually declining (Chapter 2.2). Finally, despite these functional problems these recruiters' ratings of skill levels of their new graduates are largely satisfactory with the area of most concern being the lack of business awareness (Figure 4.10).

One expected response to sustained recruitment difficulties would be for employers to raise starting salaries to attract the recruits they want. However, despite recruiters expressing concern about the quality, and in many years the quantity, of 'good' recruits available, average starting salaries for new graduates have only grown in line with average earnings; they have lagged somewhat the growth in average earnings in times of depressed labour markets and caught up again in more buoyant times, as has been the case in the most recent years (Figure 4.11).

Many employers are, however, concerned about being swamped by a large number of applications for their vacancies, a problem exacerbated by the rapid increase in the numbers graduating. The AGR members reported that they received approximately 40 applications for every vacancy in 1997, and on average each received 2,000 or more applications in all. Recruiters are seeking to meet the challenge of finding good and relevant graduates among the vast numbers graduating in as cost effective a way as possible. As might be expected when there are more than one hundred potential campuses to approach, the majority now target particular universities and/or specific departments or courses, with two-thirds favouring particular univeristies, and just under half having contacts with specific departments and courses. Recruiters often restrict their targeting to about 20 campuses and tend to include a high proportion of 'traditional' universities. Despite the expense, evaluating new graduates at assessment centres is a very popular tool, while one in three sponsor students during their courses. Along with the willingness

to develop and specify competencies at the recruitment stage, in the way in which they approach graduate recruitment (Figure 4.12), as are the comments that they would rather have a shortfall than drop standards.

5. Longer-term employment and earnings

5.1 Introduction

While the previous chapter provides insights into graduate recruitment and employment, they only present a partial, initial picture of the graduate labour market. This is because of its increasing diversity and fragmentation and the variety of career paths that graduates follow.

Getting started in a career can take some time for graduates and their early years employment experiences are extremely variable. Some make relatively unhindered and speedy progress up the career ladder, while others have a slower and more turbulent start, which can often involve a series of stop-gap jobs, further study, or some time out. In a survey of this year's graduate output, interviewed in June 1998, a quarter were planning to take a break before starting their career and almost the same proportion were intending to carry on in higher education (Guardian/NOP, 1998). This chapter highlights some of the key issues relating to graduate careers and employment beyond the initial post-graduation period, by focusing on:

- graduate under-utilisation — how severe is it? Is it growing? Is it restricted to initial employment only or does it continue for much longer?
- graduate salaries — what do graduates earn after a few years? How do they compare with non-graduates?
- graduate retention — how many do employers retain and what do they do about it?

5.2 Utilisation

There have been growing concerns as to the jobs graduates enter, the extent to which they use their skills, and in particular graduate under-employment (*eg* Pearson, 1997). It is apparent that, as the graduate labour market has grown and broadened, a substantial number of graduates are in jobs not requiring degree qualifications or are doing similar work to non-graduates. However, the true extent of graduate under-utilisation is not easy to measure, partly because of the difficulty in defining what is a 'graduate job' and because many of the methods used to assess under-utilisation are subjective, relying on employers' perceptions of graduate 'quality' or on the graduates' own views

of a suitable job. It is complicated further by the changing nature of jobs and work organisation so that some jobs which have traditionally been 'non-graduate' jobs now require higher skill levels, thus making more 'objective' research methods based on job analysis also problematic. Another important factor is that some employers have been increasing the education requirements of jobs simply because more graduates have been applying.

A number of research studies in the 1990s have focused on the changing nature of jobs graduates have been entering (Connor *et al.* 1996b, 1997; Mason, 1996; Nove, Snape and Chetwynd, 1997). These, together with statistical sources (see Chapter 4) show a clear increase in the number of graduates doing what have traditionally been regarded as 'non-graduate' jobs. These range from relatively low skill and often easily secured jobs (taken often to pay off student debt quickly or to gain some general work experience), which have no obvious link to the eventual careers they follow, to jobs which give graduates a 'rung on the ladder' or a stepping stone to a specific career aim. The length of time graduates stay in these kinds of jobs varies from a few weeks to several years.

Employers have been recruiting more graduates to do a wider range of jobs for a number of reasons, not least of which has been the greater number of graduates available. Some have been focusing more on personal qualities of applicants than qualifications, and taking on graduates because of their personal rather than their academic qualities; others have experienced changes in the workplace and have preferred to recruit graduates to help them deal effectively with more complex jobs. Another factor is the increased 'professionalisation' of some jobs which has meant a preference for graduate recruits. In many instances, graduates have simply been displacing non-graduates in the job queue. In a recent survey, almost one on five of employers reported directly substituting graduates for non-graduates, and only one in four of those substituting were doing so as a deliberate policy as opposed to a by-product of increased graduate supply (Nove, Snape and Chetwynd, 1997).

Only just over half of the graduates surveyed in these companies (as part of the same study) said that some use was being made of their graduate skills, and only one-third that good use was being made of them. The skills being under-utilised the most were what the graduates perceived to be their management ability and knowledge of degree subject, while some managers reported that it was not always possible to make use of some graduate skills in the early stages of careers. There was also a noticeable progression over time. Graduates who had been in the labour market the longest reported less under-use of their graduate skills as they moved into higher level, or more demanding roles, or found a graduate-level job. In other cases, a non-graduate job (*ie* where a degree was not a prerequisite) was being used as a stepping stone towards longer-term career goals.

This shift over time from graduation was also seen in a second follow-up of Sussex graduates in 1997. Four and six year years after graduation, a much higher proportion of graduates were in graduate jobs (in this case defined as professional and managerial occupations) than at the two to three year stage (when the first follow-up was undertaken). There was also a noticeable reduction in the proportion who felt very under-employed in their job, from 26 to 12 per cent, although this improvement has to be set in the context of a rapidly improving labour market in the mid 1990s. (Connor *et al.*, 1997)

Other evidence suggesting that under-utilisation may not be as lasting a problem as once thought, at least for many if not all graduates, comes from an analysis of occupations from LFS data. In 1998, 85 per cent of graduate employees were in the top three occupational groups (managerial, professional and associate professional), compared with 87 per cent six years earlier, suggesting little deterioration. However, when only the younger graduate employees, aged under 25, are compared, the deterioration is marked; in 1992, 72 per cent were in these higher level jobs, but by 1998, when the labour market had also improved, this proportion had fallen to 56 per cent (Figure 5.1).

5.3 Salary progression

Graduates' initial salaries vary widely depending on the employment and careers followed, as well as on factors such as gender and degree discipline (Chapter 4). Since such wide initial salary ranges are found, it is difficult to generalise about typical graduate salaries after a number of years in the labour market, or following a particular career path, or what a new recruit joining a company can expect in terms of salary progression. A number of sources do, however, help map 'average' salary progression and highlight important differences, especially between men and women.

Men appear to have a slower start than women but their salaries continue upwards over the whole of the first 12 years following graduation, while there is a definite flattening out for women by the nine year stage. There is also a widening gap between men and women after four years (Figure 5.2). These differences are explained, at least in part, by the likelihood that many women in their late twenties/early thirties will be taking time out of work to have children, or have had career breaks which have affected their earning levels. Another interesting point is that while male salaries are normally ahead of female salaries, this is reversed at the three to four year stage. This may be where the long-term trend in under-achievement of women in career terms actually starts (*ie* the roots of the glass ceiling effect) or it may due to some other explanation relating to the different behaviour and attitudes of men and women towards choosing and getting initial jobs, with, for example, women settling for lower paid jobs in the first instance.

A 1996 follow-up survey of a sample of 1985 and 1990 graduates also shows how the gap between men and women widens over time. For the 1990 cohort, male and female salaries were approximately equal after one year (male one per cent higher than female) but by age 25-29, male salaries were seven per cent higher. For the 1985 graduate cohort, it is possible to look further on and see the gap widening further: male graduates aged 30-34 earned 13 per cent more than female graduates (Belfield *et al.*, 1997). That study, and others (*eg* Connor *et al.*, 1997), have also highlighted significant differences in the salaries of graduates from different disciplines, although some of the analysis here is based on relatively small samples and so needs to be treated with caution. Among the 1990 graduates aged 20-24 years, the highest earners were graduates in clinical medicine and the lowest in sociology. However, over the years graduates in computer studies and mechanical engineering became the highest paid. Interestingly, both these disciplines had relatively low levels of female representation in the sample (ten and eight per cent respectively), while sociology (with more equal representation of women), still trailed behind in salary terms.

Other evidence on salary progression, from employer surveys (AGR, 1998), shows that the then current (1997) average (median) salary for graduates recruited one year ago (1996) and three years ago (1994) to mainly medium/large companies was £17,000 and £21,000 respectively (Table 5.1). This compared with a current average (1997) starting salary of £15,500, an average salary 'lead' of ten and 29 per cent respectively. These figures also show an average salary progression of over 50 per cent (which includes inflation) over the 1994 starting salary of £13,500 for graduate recruits. The range of salaries paid to 'three year old recruits', however, was very wide, with an upper decile at £31,000 and a lower decile of £16,500, a much wider salary range than that of the 1994 starting salaries.

Another comparison[1] of the 1997 salaries of those who graduated three and five years earlier (1994 and 1992), also shows very wide salary ranges, but with very similar medians at £21,000 and £22,000 respectively. The average three year lead (comparing 1997 starting salaries with 1997 average salaries) was 40 per cent for those recruited three years earlier and 63 per cent for those recruited five years earlier (Table 5.1). The highest average salaries for both groups were in finance, though one or two very high payers pushed up this figure.

The latest national figures from the LFS, Spring 1998, on the earnings of graduates aged 30-35, an age when career paths are likely to have become established and stabilised, show that earnings of graduates are considerably higher, on average more than 50 per cent higher, than for non-graduates (Figure 5.3). This applies to both men and women, but regardless of qualification

[1] Based on a much smaller number, around 50, of graduate recruiters (IDS, 1998).

level, earnings of women trail behind those of men, though the gap is larger among the unqualified group.

Overall earnings for graduates are also higher over their working lives than for non-graduates (Lissenburgh and Bryson, 1996). As the proportion of young people participating in higher education rises and the graduate labour market broadens in the way discussed above, this differential is falling. However, it is too soon to see the effect on these differentials of the rapid post-expansion period of the early 1990s as the graduates have only been in the labour market for a few years. Other factors of influence, such as short-term fluctuations in the graduate labour market caused by economic cycles, and the longer-term trend of higher employer demand for better qualified people, will also be expected to have an effect over time. It should also be borne in mind that these figures are averages which conceal wide variations between different groups of graduates.

5.4 Graduate retention

Salary progression is often linked with retention though many other aspects of HR policies such as quality of training and development, variety of work access to professional accreditation, and longer-term career prospects, are seen as being as important as high salaries in retaining graduates (Bevan, 1997).

The evidence from graduate recruiters is that, on the whole, despite the increased market competition, relatively good retention rates are being maintained, though again the average figures conceal considerable variation. In late 1997 half of the recruiters who had figures available had held on to at least 50 per cent of their 1992 intake (*ie* for five years) and at least 75 per cent of their 1994 intake[1] (*ie* for three years). The best ten per cent of recruiters had held on to 80 per cent or more of graduates recruited five years earlier (AGR 1998). Similarly high average retention rates, but also extremely variable ones, were shown in another, smaller employer survey (IDS, 1998).

While few employers in the AGR survey were able to fully explain their graduate retention patterns, there was a general belief that relevant HR policies could be of positive benefit. These included access to continuing professional development (CPD), individual career planning, and mentoring schemes. By contrast, retention bonuses in the form of golden hellos or golden handcuffs were used little and felt to be less beneficial. This supports more general research relating to retention (Bevan, 1997).

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[1] These figures may be affected by a high propotion of accountancy firms where trainees stay for three years to quality and then leave. The drop-out rates while studying are not available.

6. International Comparisons

6.1 Introduction

International comparisons of education and labour markets are notoriously difficult due to the widely differing national systems of education, labour markets, and data classification systems.

The desire to benchmark national systems of education has led to a range of international organisations developing common definitions and indicators. The Organisation for Economic Co-operation and Development (OECD) has been developing the most useful set of indicators with their 'Education at a Glance' series (OECD, 1998). These indicators, along with EU statistics, are the main source for this section of the report. This in turn means that the indictors will only cover those countries that were capable of providing the data.

This chapter provides a set of key international comparisons in terms of:

- entry into, and graduations from university-level education,
- the employment, relative earnings, and training of the highly qualified.

6.2 Entrants into, and graduations from university-level education

Given the differing lengths, intensities and levels of university education, simply counting the number of university students generates more anomalies and provides no useful benchmarking data. In an effort to address this problem the OECD has developed an indicator which looks at new entrants to university-level education. The indicator estimates the percentage of today's school-leavers who will enter university-level education during the course of their lives, assuming current university-level enrolment rates. This shows that with the current entry rates, 43 per cent of today's UK school leavers will enter university-level education at some time during their life. This compares with 52 per cent of US school leavers and 48 per cent of Canadian school leavers. Apart from these countries, the UK has the highest entry rate, while on current patterns in Switzerland only 15 per cent of school leavers will enter university. The UK scores highly on this indicator partially as a result of high participation rates amongst 19 year olds, but there

is also an important growing tradition of mature entry to university (Figure 6.1).

One of the problems with presenting graduation rates is the range of levels that people can graduate from, especially when in some countries specific levels are only transitory levels within education systems, with no real labour market value. Thus the focus here is only those countries with similar higher education systems and specifically only 'short' (three to four year) first degree[1] programmes. On this basis the UK, with a graduation rate of 31 per cent, is on a par with Canada and only just behind the US and Australia which have a rate of 34 per cent. Importantly, the UK has a far higher graduation rate than either Japan or Korea's 23 per cent, which is in part due to low female participation rates in these countries (Figure 6.2).

One of the key concerns in the UK and many other industrialised countries is the adequacy or otherwise of the supply of graduates in the scientific and technical subjects (European Commission, 1997). Figure 6.3 presents a breakdown of the percentage of all graduates in Natural Science; Mathematics and Computer science; as well as Engineering and Architecture.[2]

Overall, the US has the smallest proportion of new graduates in these economically important scientific and technical subjects, with only 19 per cent. This compares with Finland where 42 per cent of new graduates were in the scientific and technical area. The UK's position is mid-range with over one in four in these subject areas.

Looking more specifically at engineering (and architecture) then Finland has the highest density, followed by Germany and Denmark, with the UK having a middle ranking, ahead of the United States.

6.3 Employment, earnings and training

The earlier figures have focused on the flow of newly qualifying graduates. Here the focus is on the density of graduates and professionals in the labour market. In most countries there is a high correlation between professional status and the possession of a degree, although there are often differences in the relationship in individual professions.

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[1] In most European countries either all or some of the first degree courses take from between five and seven years to complete, for example, the German Diploma.

[2] Natural Sciences includes the following ISCED subject categories: 'Natural Science' ISC42; 'Agriculture, forestry and fishery' ISC62; and 'Home economics' ISC66. Mathematics and computer science is ISC46. Engineering and Architecture includes: 'Engineering' ISC54 and 'Architecture and town planning' ISC58.

Overall, Belgium and Denmark have the highest proportions of university (tertiary) level personnel in the working population, with the UK also showing one of the highest densities in the EU (Figure 6.4). Belgium also has the highest percentage of professionals in the workforce. Austria, Italy and Portugal all have relatively low levels of professionals and low levels of those with university qualifications. It is difficult to tell whether few people in these countries seek university places because there are few professional jobs, or whether there are few professionals because there are few graduates.

One measure of the demand for graduates is the increasing polarisation of average earnings between graduates and non-graduates. In the UK, university-level graduates earned 179 per cent of that earned by upper secondary ('A' level) graduates. This compares with a differential of 187 per cent in Finland and only 133 per cent in Denmark (Figure 6.4). Importantly, some countries with high numbers of graduates also tend to have higher earnings differentials. This suggests that in these countries the differential is unlikely to be driven by a shortage of graduates.

While it is important for a company or country to have a highly skilled workforce and a strong flow of highly qualified new entrants, it is also essential that their skills and competencies are regularly updated. When educational attainment and participation in continuing vocational training (CVT) are plotted, a clear relationship appears, with countries with a high level of educational attainment[1] also tending to have a high level of CVT. Ireland with 43 per cent and the UK with 39 per cent have the highest levels of those in employment participating in CVT, while Greece and Portugal both with 13 per cent have the lowest levels (Figure 6.6). This parallels the pattern seen at the individual level in the UK where graduates are much more likely to receive training than non-graduates.

[1] Defined as ISCED 5, 6 or 7 qualification.

7. Future Trends

7.1 Introduction

It is widely recognised that the pace of change in the workplace is accelerating under the combined pressures of increased competition and technological and organisational change, along with the changing expectations of the workforce. Competition is not only becoming increasingly international but it is also impacting on the hitherto insulated public sector. Here, schools and hospitals now compete one with another and with private sector providers, while their performance comes under scrutiny through league tables. Organisations are responding in a variety of ways. Many are focusing on their core activities, selling off peripheral activities and outsourcing such formerly integral activities as their IT systems, and aspects of personnel, as well as the more traditionally outsourced activities such as catering, transport and property. Changes are also being made to organisational structures and to the mix of staff and skills needed.

The pace and complexity of these changes and organisational responses are such that trying to forecast future skill trends using the old models of occupations and skill sets are increasingly problematic, and in many cases irrelevant (Hirsh W, Reilly P, 1998). Yet, despite these uncertainties, employers cannot abdicate from making assumptions about the future when recruiting, training, developing and deploying staff since the consequences of success or failure may impact not only in the short term but also for ten or 20 years or more ahead.

At the same time those in the education system, and higher education in particular, are seeking to shape course provision and the learning experience to help students successfully enter and then traverse a complex, uncertain and changing work environment. This is not to argue that the purpose of education is to simply to prepare students for working life, it does, however, have a responsibility to ensure that the potential employment consequences are built into the thinking about course provision and careers guidance.

Finally, potential students and their advisers have to make assumptions about the costs of, and the returns to higher education when making choices, and need good information if they are to make informed choices.

Accepting the difficulties of forecasting with any degree of certainty, what can usefully be said about future trends in the graduate labour market? This chapter focuses on:

- the changing pattern of graduate supply
- changing pattern of employer demand for graduate related skills
- likely imbalances between the supply and demand for graduates.

7.2 Graduate supply

There are currently over five million graduates in the workforce with the last decade being one of exceptional growth and change in higher education. That growth finally slowed when the government capped intakes in 1995. As a result, the numbers likely to graduate each year until 2002 are likely to be broadly static, although there will be great diversity among those graduating. The government has since said it will increase student numbers by 500,000 in further and higher education. The bulk of this expansion is, however, expected to be in further education and at sub-degree level in terms of higher education. Entrant to full-time first degree courses will rise only marginally from 1999 onwards. This is well below earlier projections of potential demand for places which suggested that without this cap, and the introduction of fees and abolition of the maintenance grant, the numbers could have grown by 25 per cent or more (Connor H, Pearson R *et al.*, 1996a).

As noted earlier, the student body has become increasingly diverse in terms of their personal characteristics with, for example, women now in the majority. One in three are mature students, over ten per cent are from ethnic minorities, and more are living in their home town or region. These developments are being accompanied by a growing range of courses and numbers of universities and colleges offering higher education. The introduction of fees and the abolition of maintenance grants this year is also expected to bring about further changes, including an acceleration in the trends towards:

- more students questioning the costs and benefits of higher education and seeking more information about outcomes to high education before they apply
- students being more demanding and questioning as to the relevance and standards of delivery of the curriculum and their higher education
- more students studying in their home region, and living at home while studying, reducing their potential for subsequent job mobility
- more students undertaking paid work during term time to finance their study (which will hopefully give them some

benefits in the form of work experience that they can relate to subsequent career choice)

- suppressing the growth in student numbers (Pearson, 1997).

Their true impact will not, however, be known for several years as the new arrangements settle in. Nevertheless, we are likely to see over 400,000 graduating each year for some years to come, far exceeding the much smaller number who retire or otherwise leave the workforce, thus leading to the overall numbers of graduates in the workforce growing by over five per cent per annum.

7.3 Employer demand

To date the labour market has been able to absorb the rapidly expanding numbers graduating, albeit with more prolonged periods of job search and transitions into stable employment, while more have been entering lower-level jobs and often displacing non-graduates in the job queue. While, on average, graduates do better in the labour market than non-graduates in terms of earnings, lower unemployment and access to further training, the economic rate of return to study in higher education has been falling and is expected to fall further (Dearing, 1997). At the same time, the incidence of recruitment difficulties reported by the major recruiters, who provide only a minority of the jobs being filled by graduates, has been rising with the economic upturn, but is not widespread.

Overall, the current position, after some years of economic expansion, is broadly one of an adequate numerical supply of graduates for current demand but where concerns exist as to the qualities and work preparedness of some of those graduating (Chapter 4).

Looking ahead, the forecasts in the UK and most mature OECD economies point to a continuing growth in the demand for people with high level skills, and in the service sector, and to continued decline in many opportunities for the unskilled, particularly in manufacturing. These changes are being driven by both changing industrial structures and the shift from the low valued-added manufacturing sectors to higher value-added, largely service, sectors. In addition, the introduction of technology and business reorganisation and new working practices are taking out lower-skilled jobs and increasing the need for high skills within all sectors.

The latest UK econometric forecasts, which were prepared before the advent of the current economic downturn, suggest that the numbers employed in managerial and high level administrative positions will grow by about one per cent per annum into the next century, and those in professional occupations by 1.5 per cent per annum. The particular occupations expected to show

the most growth are health professional and 'other professions' which includes lawyers, accountants, architects and social workers. Growth at associate professional and technician level, where more graduates have been finding employment, is projected to rise by 1.5 per cent per annum. The rate of growth among science/engineering is expected to slow but still be over one per cent per annum. There will also be significant growth in opportunities for the less skilled in personal and protective services; even here, however, good basic skills in terms of service and attitudes will be needed (Figure 7.1) (BSL, 1997; OECD, 1996).

These headline figures can show broad trends, but equally important are the changes taking place within occupations as the skills required develop and in most cases widen. This is illustrated as follows.

In the case of IT, where some employers look for specific IT skills jobs, these IT skills need updating regularly and rapidly. Employers are therefore increasingly looking to recruit and train people who have the ability to adapt rapidly and learn different skills, sometimes within a very different conceptual framework to that in which they are already working. Recruiters are looking for logical and analytical ability, and a level of intellectual capacity, which are seen as the best indicators of potential, rather than specific existing skills. In addition, technical skills in IT alone are rarely enough, and a range of generic abilities are increasingly being sought, including the ability to recognise a business problem, analyse the need for, and introduce an appropriate IT solution (Dench, 1998).

In engineering, while employers look for specific, and often very particular, technical skills and knowledge, a sound grounding in the basics of a particular branch of engineering is also essential. As is the case in other areas such as IT, employers are also increasingly looking for a range of generic skills including team working and client relationship skills, as engineers at all levels are increasingly having to come into contact with clients, with the advent of quality audits and inspections (Dench, 1999).

Finally, in a less traditional graduate area, in secretarial roles, the use of IT has both reduced the amount of routine work and led to an increase in the quality and speed of work expected of secretaries, making time available for other activities. This move towards flatter and less hierarchical structures has given more senior secretaries the opportunity to take over some managerial responsibilities, and/or led to a shift from a personal to a team role, taking responsibility for project work themselves. Finally, as increasing numbers of graduates have been entering these jobs in place of lesser skilled entrants, they have often have driven some of these changes, effectively upgrading their jobs (La Valle *et al.*, 1996).

7.4 The skills in demand

While demand is expected to continue to grow for engineers, scientists and technologists (where a relevant degree is an entry requirement), only a minority of vacancies for graduates specify the discipline. Even in vocational areas such accountancy and the law, many employers recruit, and indeed often prefer, graduates who have studied unrelated subjects, providing the necessary job-specific training through initial training and professional development programmes.

Recruiting the 'right' people has become more of an imperative as jobs have become increasingly demanding and as organisational competitive strength relies on the overall quality of the workforce. As a consequence, many employers have begun to define much more rigorously what they are looking for in terms of the potential to develop and the necessary underlying personal and behavioural characteristics or values. A key need is for recruits who are flexible and can adapt and respond to the changing needs of the workplace. Articulating and defining such skills and values is, however, fraught with difficulties. There is a lack of a common terminology, with terms such as behavioural, generic, key, transferable, soft, and non-occupational all being used interchangeably, while the labels themselves can often hide more than they reveal, with *eg* 'business awareness' being capable of a multitude of definitions. Many employers struggle to define their needs in terms of their own organisations; providing adequate and clear messages for those in the education system is an even greater challenge. The breadth and complexity of the key skills that are often talked about is illustrated in Figure 7.2. Finally, the extent to which an individual needs such a skill will vary according to the role, organisation and context within which they are employed.

7.5 Will shortages grow or abate?

It is clear that the complexity of the economic cycle and organisational change mean that not only is it difficult to forecast the level of jobs and vacancies, but it is even more difficult to articulate the precise skills needed. To seek to identify potential skill shortages and surpluses, account has to be taken not only of the increasingly diverse supply side, but also the fact that graduates are delaying their entry into the market, are entering jobs not previously filled by graduates (thus displacing non-graduates), while employers also have adjustment mechanisms such as raising salaries, redesigning jobs, retraining and/or recruiting older entrants.

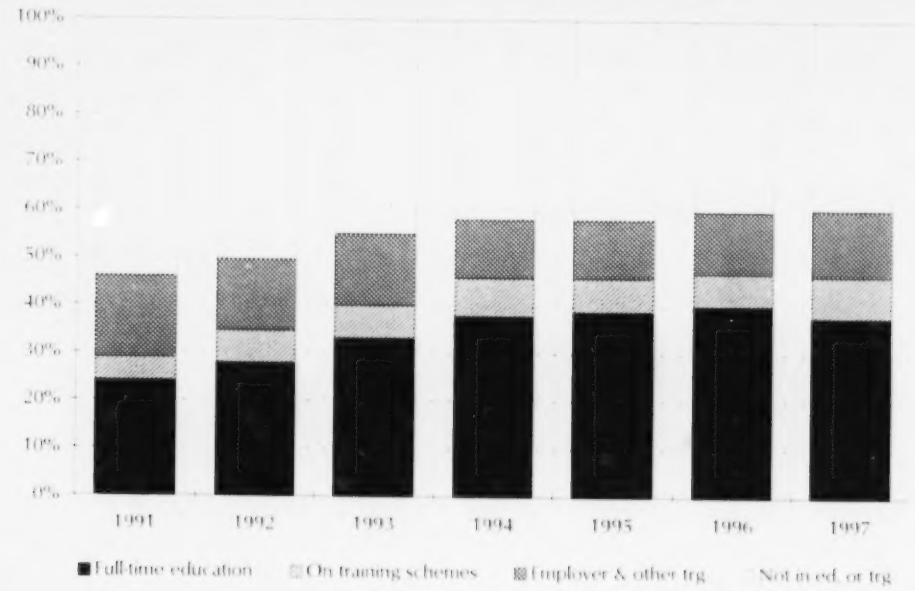
The state of the economy is the key determinant of overall demand, and at the time of writing the economy is on the turn with much of manufacturing and possibly parts of the service sector such as retailing in, or moving into, recession. The

recession of the early 1990s saw the number of vacancies among the large traditional recruiters fall by as much as half, and we may be about to see the start of such a downturn in the year ahead. Forecasts earlier in the 1990s (IER, 1994) suggested that there would be an overall numerical surplus of graduates and postgraduates in the late 1990s as the rate of growth in supply exceeded the rate of growth in demand. There is little evidence to contradict that forecast, especially with the advent of the current recessionary factors.

Nevertheless, there is expected to be a sustained demand for the 'best' graduates, and recruiters are likely to continue to experience recruitment difficulties for high achievers with good personal skills. Such difficulties will, however, be reinforced in part by the narrowness in the personal specification and selection parameters of many recruiters who continue to focus on a sub-section of the market, usually a relatively small number of the 'traditional' and (supposedly) best universities. The desire to target and focus their activities is understandable when faced with the possibility of several thousand applicants, but reflection on their actual needs, and the use of work experience as a pre-selection device would enable them to widen initial search. Alternative sources also exist, be they through retraining existing staff, or recruiting older or different types of recruits, while adjusting salaries and working conditions can also help. Finally, while improving the effectiveness of their recruitment processes is important, just as critical is the retention of these expensive recruits when half or more can be lost in the first few years (AGR, 1998; Bevan S, 1997). Here a key challenge is to manage the expectations of potential recruits in terms of what can be offered by way of progression and promotion in the modern, rapidly changing workplace.

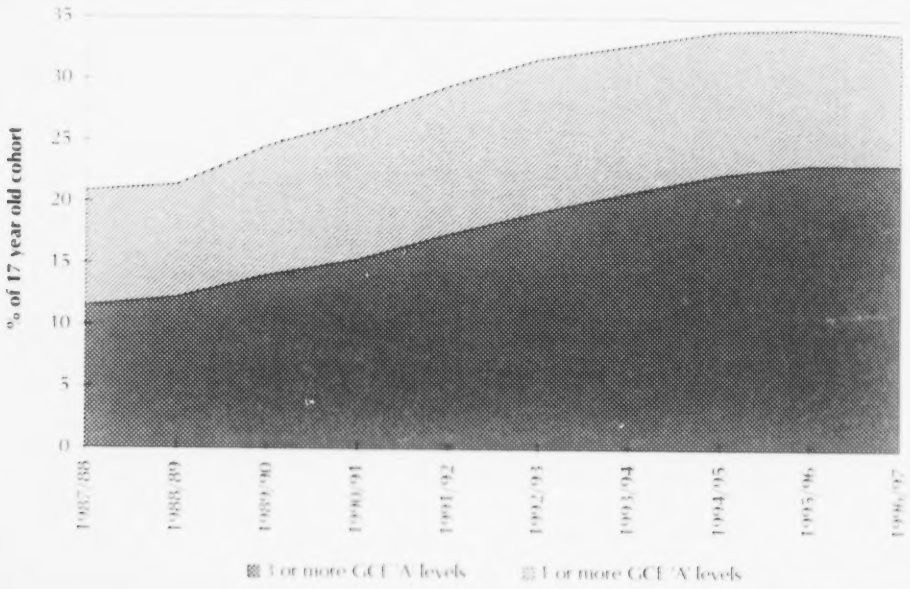
FIGURES AND SOURCES

Figure 2.1: 18 year olds in post-compulsory education and training, England



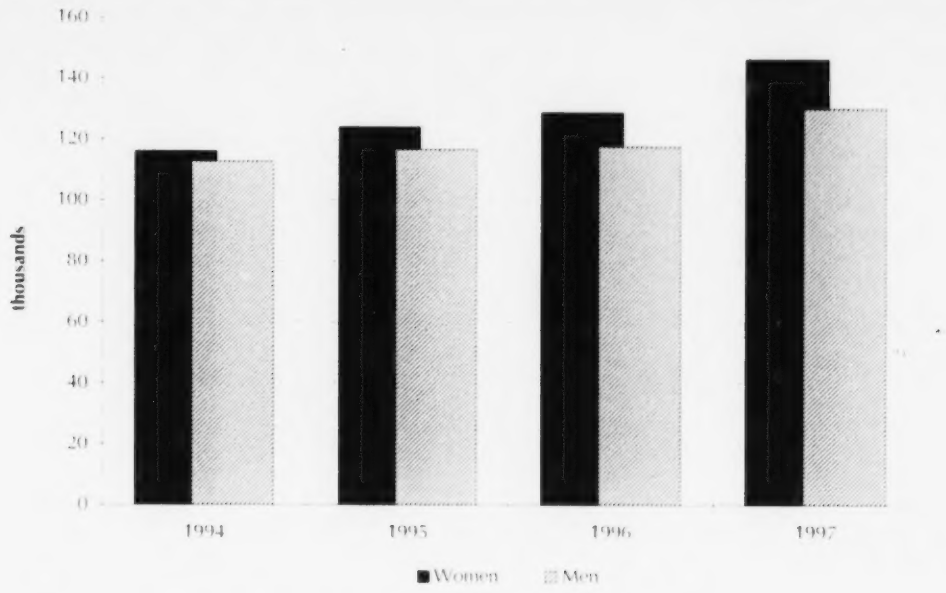
Source: IES/DfEE (1997a) Figure 19 and DfEE (1998a) Figure 3.2

Figure 2.2: 'A' level achievement of 17 year olds, England



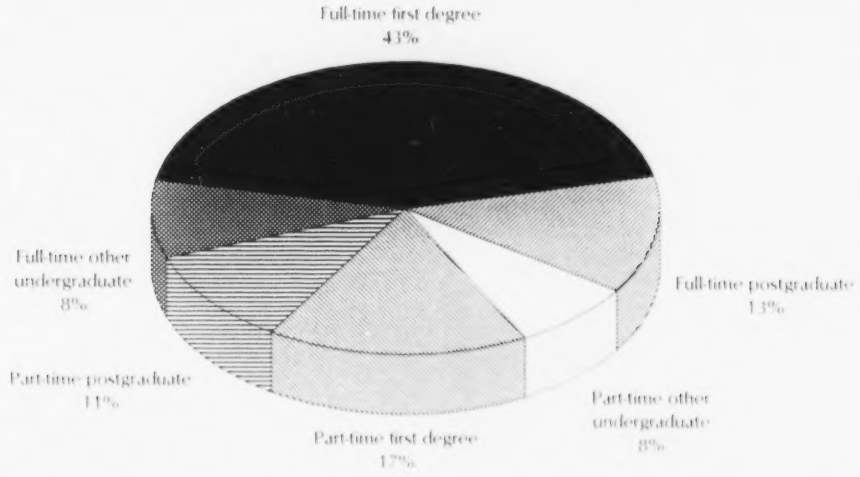
Source: IES/DfEE (1998b) Figure 12

Figure 2.3: Numbers of applicants to degree courses 1994-1997 entry (home students, UK)



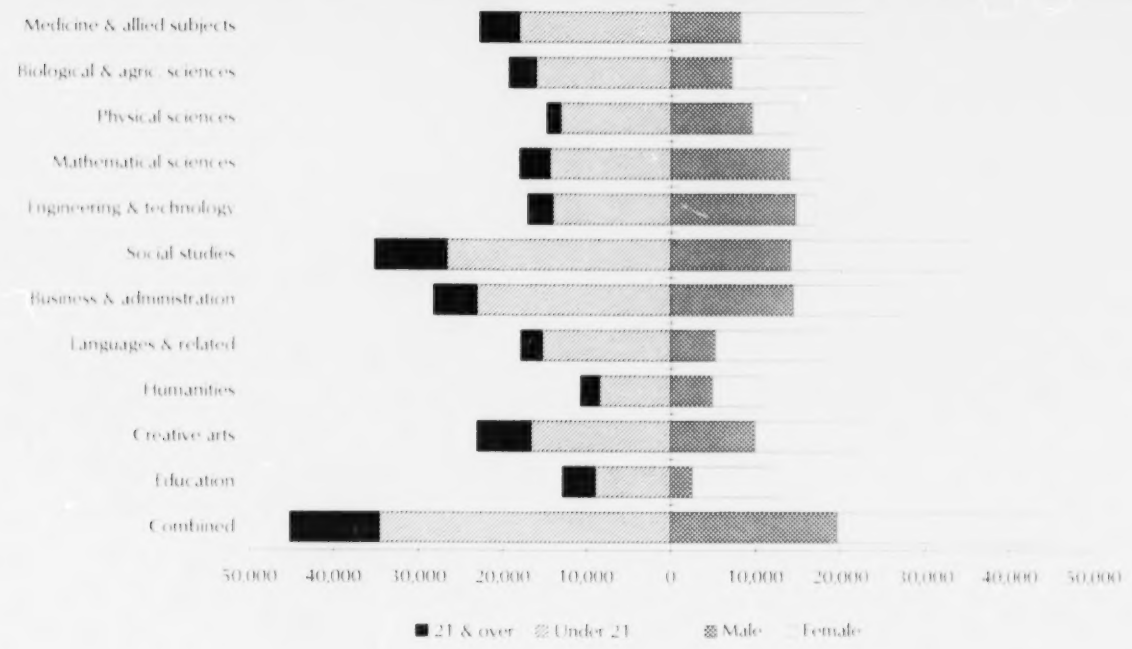
Source: IES/UCAS (1998a, 1997, 1996, 1995) Figures D2.1

Figure 2.4: Number of first year students by mode and level (1996-97, UK)



Source: IES/HESA (1998a) Figures 1b, 1d, 1f, 1h

Figure 2.5: Admissions by subject, age and gender (home students, 1997 entry)



Source: IES/UCAS (1998a) Figures B2.1, D4.1

Table 2.1: Sandwich course students as a percentage of full-time first degree undergraduates (home students)

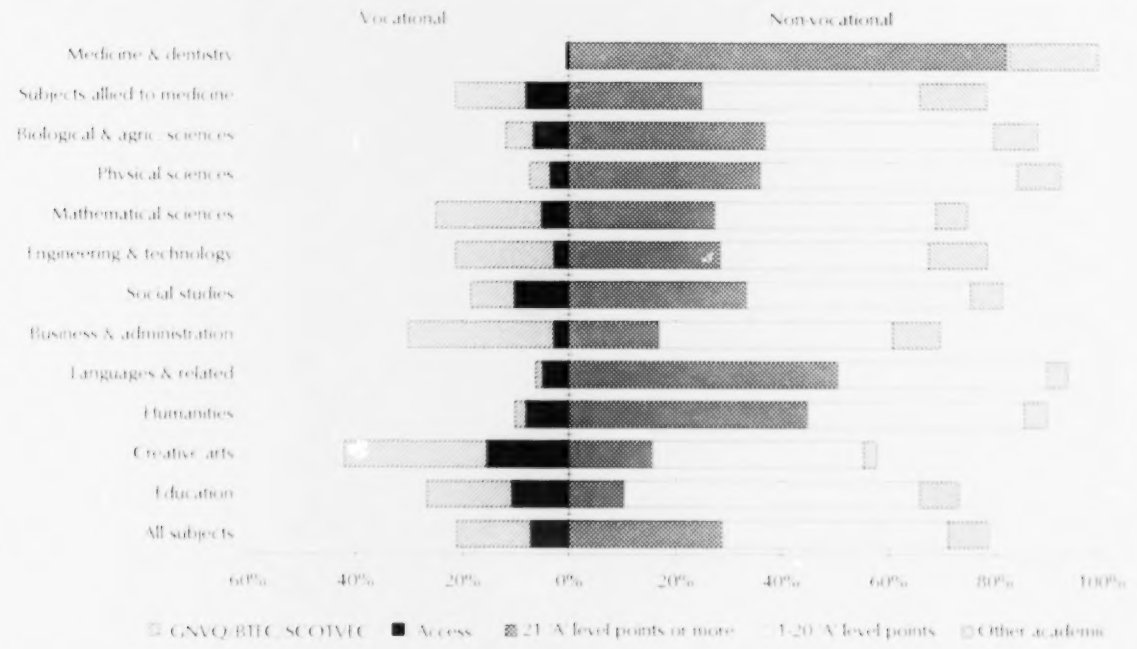
	1995	1996	1997
Computer science	47.3	44.2	42.7
Mathematical sciences	17.3	16.1	13.6
Business & administrative studies	39.3	37.2	35.8
Engineering & technology	26.4	26.1	23.3
Physical sciences	11.9	10.9	9.8
Architecture, building & planning	36.8	34.8	34.9
Agriculture & related subjects	35.2	34.8	33.6
Subjects allied to medicine	12.0	13.4	10.9
Social, economic & political studies	4.0	3.4	2.9
Biological sciences	10.5	10.3	9.7
Creative arts & design	5.3	5.8	4.8
Languages	3.8	3.9	3.8

Source: IES/HESA (1996, 1997a, 1998a) Figures 2a, 7

Figure 2.6: Change 1994/95 to 1996/97 in first year, first degree students by subject (full-time, UK)

Source: IES/HESA (1998a) Figure 1b and HESA (1996) Figure 1b

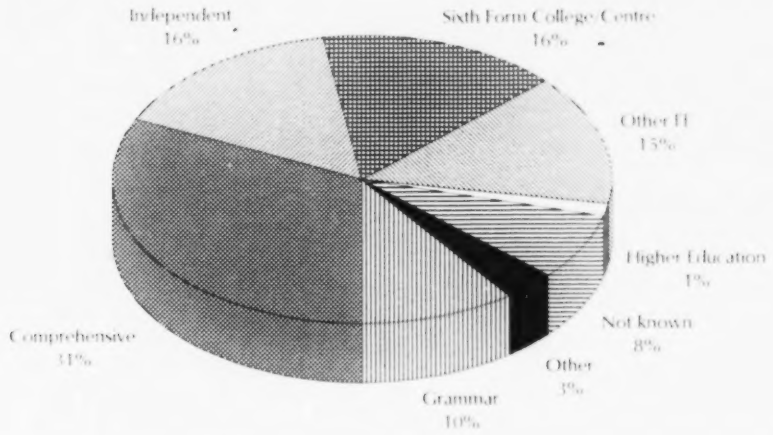
Figure 2.7: Main qualification of home applicants accepted to full-time first degree courses by subject group, 1997



Note: In Scotland the majority of students take 'highers' rather than 'A' levels; these are classified as 'other academic' in the figure above

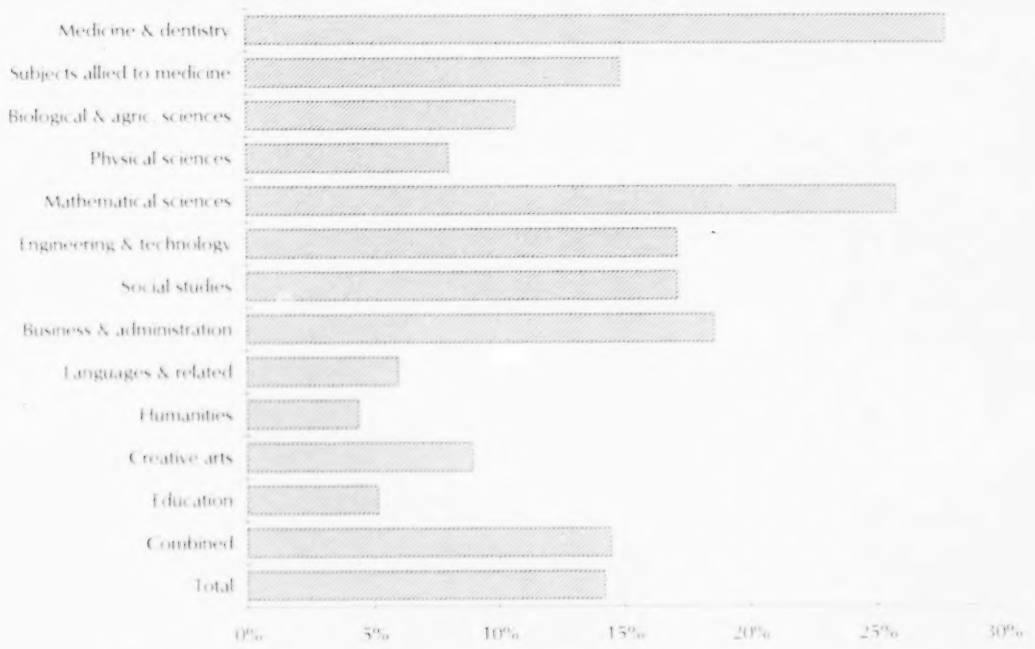
Source: IES/UCAS (1998a) Figure F2.1

Figure 2.8: Previous educational establishment of home applicants accepted to full-time first degree courses, 1997



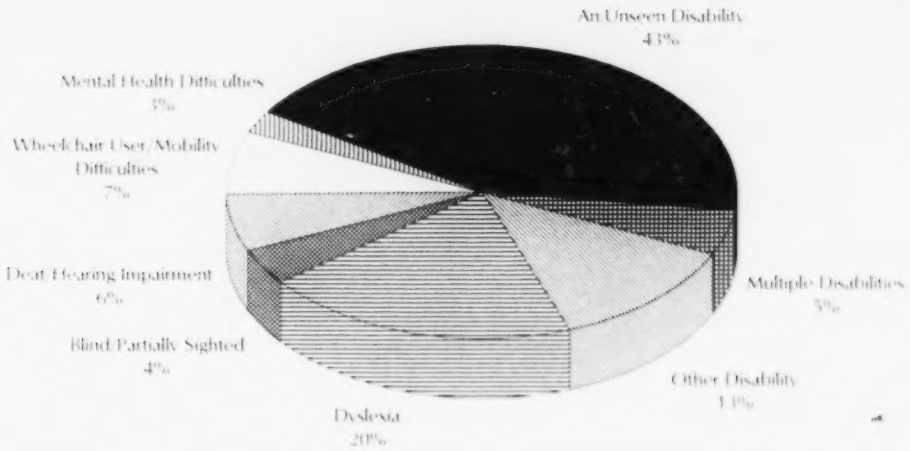
Source: IES/UCAS (1998a) Figure F4.1

Figure 2.9: Non-white accepted home applicants to full-time first degree courses by subject, 1997 entry



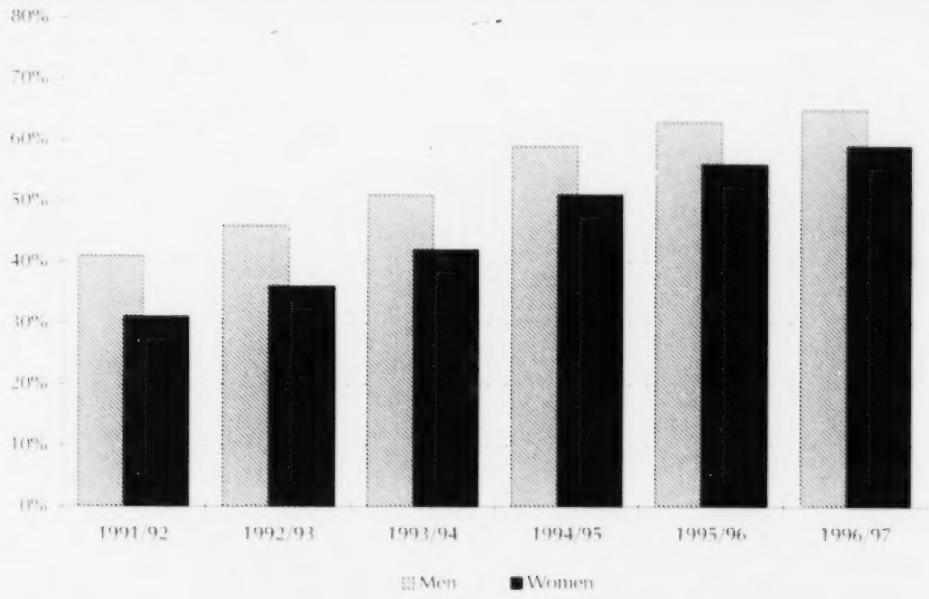
Source: IES/UCAS (1998a) Figure G4

Figure 2.10: First year, full-time first degree students known to have a disability (UK domiciled, 1996/97)



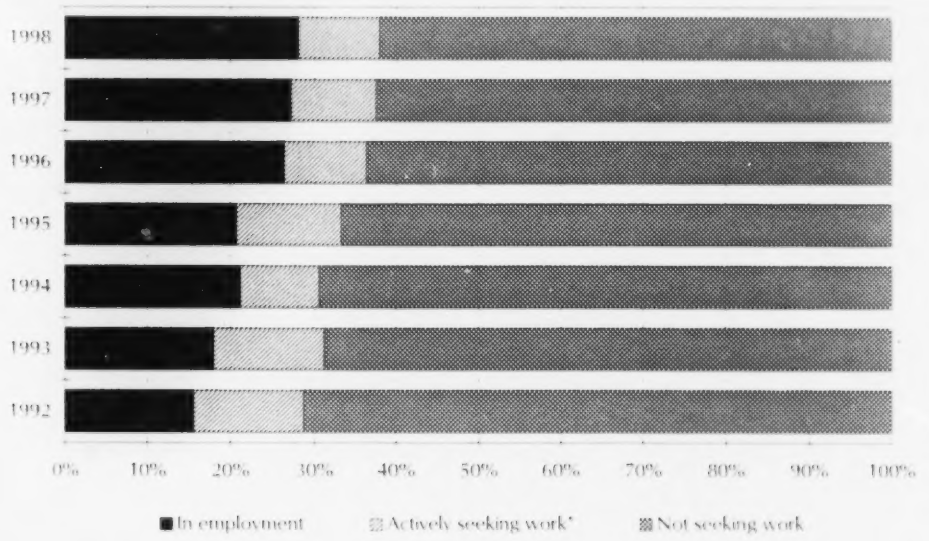
Source: IES/HESA (1998a) Figure 11a

Figure 3.1: Students taking up Student Loan Company loans, by gender (% of those eligible)



Source: IES/HESA (1998c) Figure 19. Includes some estimated and provisional data/Student Loans Company (1998)

Figure 3.2: Economic activity of full-time, first degree students, 1992 to 1998



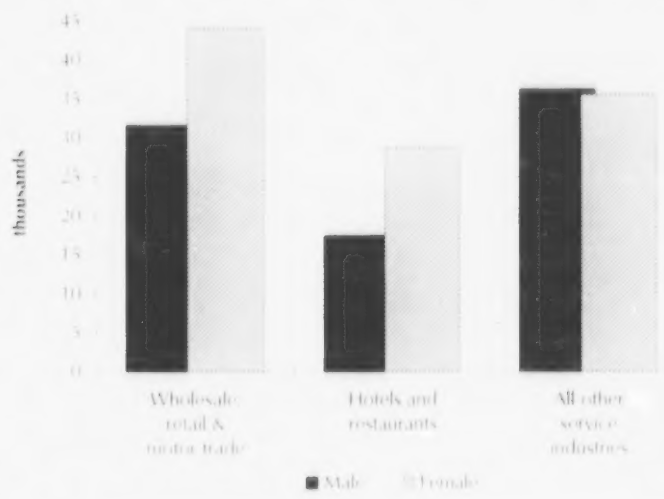
*whether can start in next 2 weeks or not

Source: IES/LFS Spring Quarters 1992 to 1998

Figure 3.3: To work or not to work in term time: reasons given for decision, full-time first degree students, 1998

Source: IES/Barclays Student Survey, 1998

Figure 3.4: Number of full-time, first degree students in employment, by sector, UK, 1998



Source: IES/LFS Spring Quarter 1998

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Table 3.1: Estimate of debt accrued during Higher Education

Source	Estimate	Estimated total debt
Guardian, 1998	Potential new starters 1998/99	£6,992
National Union of Students, 1998 (Outside London)	NUS estimates excluding fees, parental contribution or earnings, new starters 1998/99	£1,668 (first year)
High Fliers, 1998b	Final year students 1997/98	£2,570
Barclays, 1998	Third year students 1997/98	£4,453

Source: IES

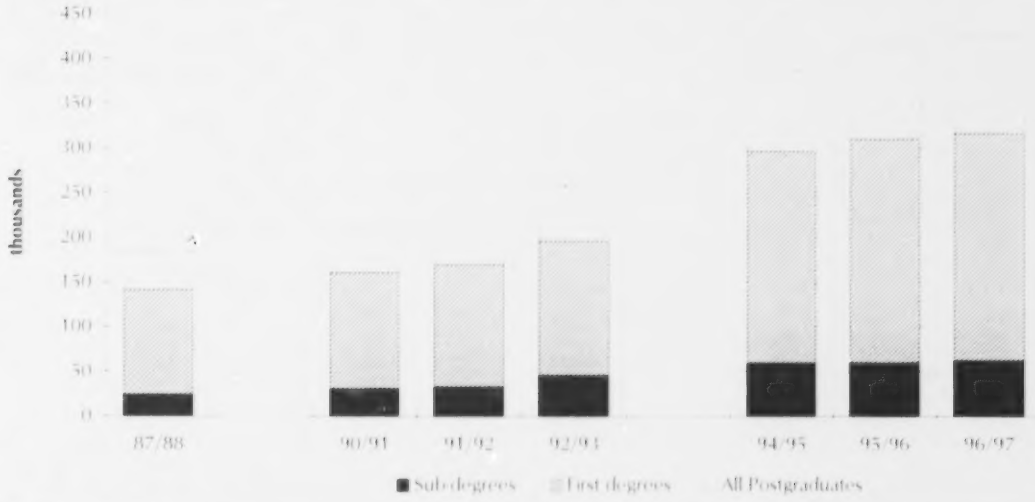
Table 3.2: Gross annual earnings of full-time employed new graduates, estimates vs actual earnings £pa

Salaries Paid, 1998				Salary Expectations on graduation	
Labour Force Survey		AGR (98)	Barclays	Barclays (98)	High Fliers (98a)
Male	Female				
14,768*	12,584*	16,000*	12,795^	13,500-14,000^	15,300^

* *Median*
^ *Mean*

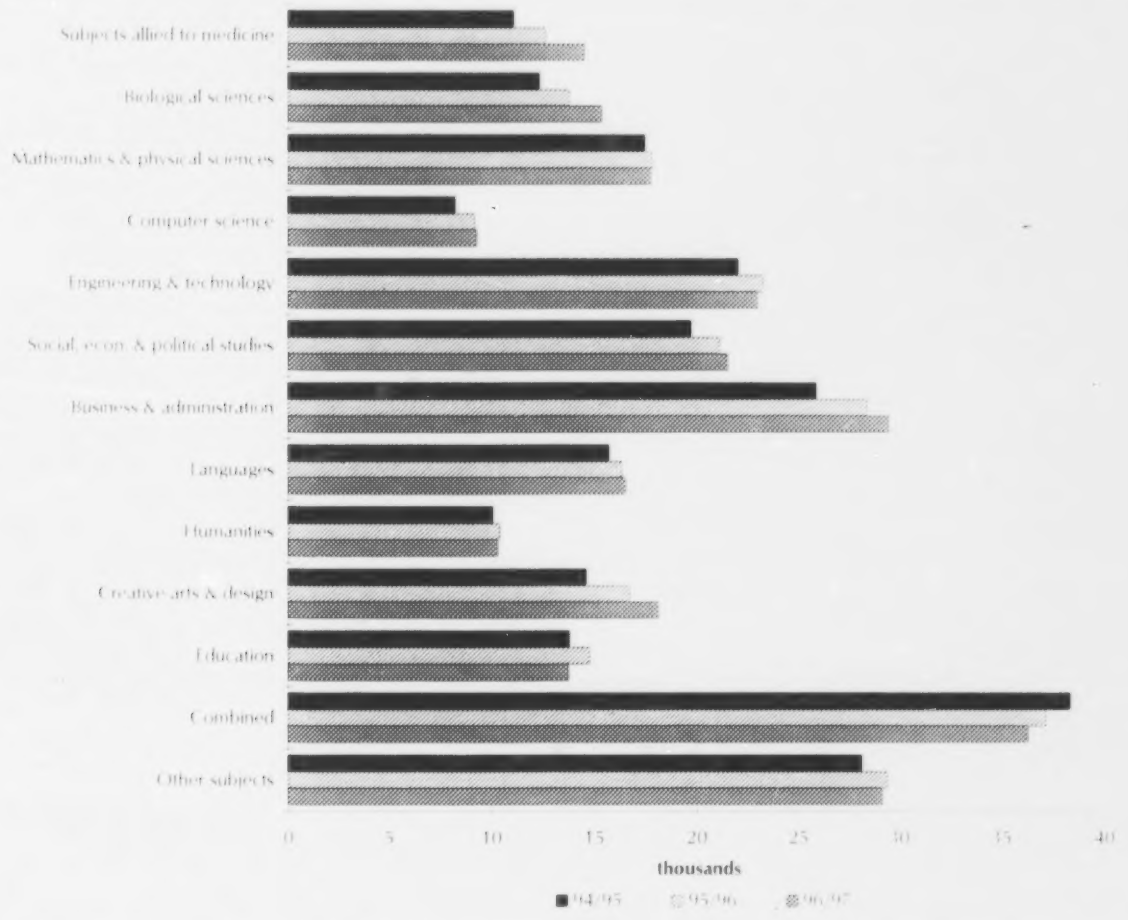
Source: IES/LFS Spring 1998 Quarter/AGR 1998b/Barclays (1998)

Figure 4.1: Numbers graduating, 1987/88 to 1996/97



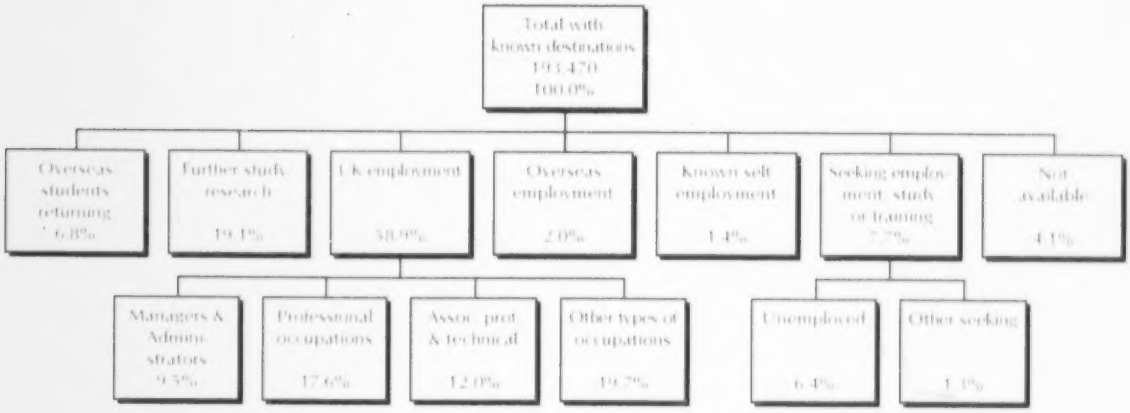
Source: IES/HESA (1998a, 1997a, 1996 Figures 14, 1995 Figure 20)

Figure 4.2: First degree by subject area, 1994/95 to 1996/97



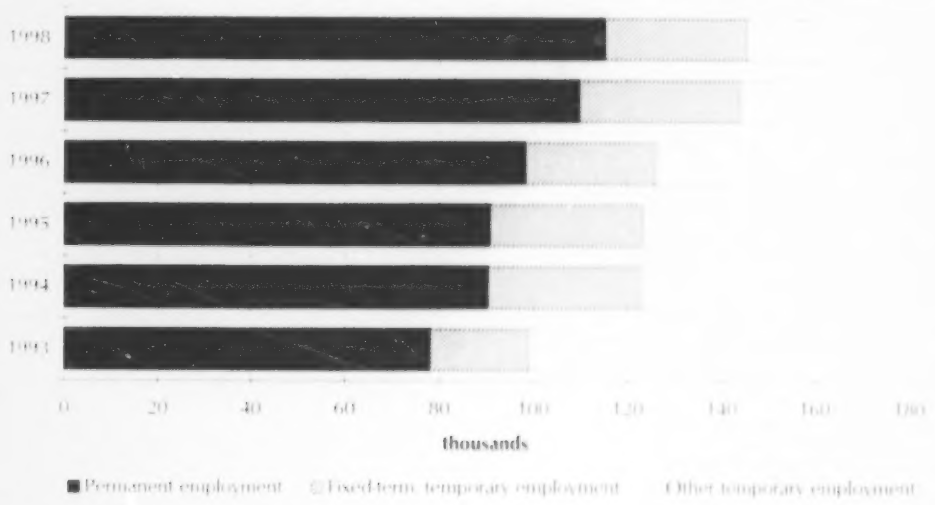
Source: IES/HESA (1996/1997/1998a) Figures 13

Figure 4.3: First destinations of first degree graduates, 1997



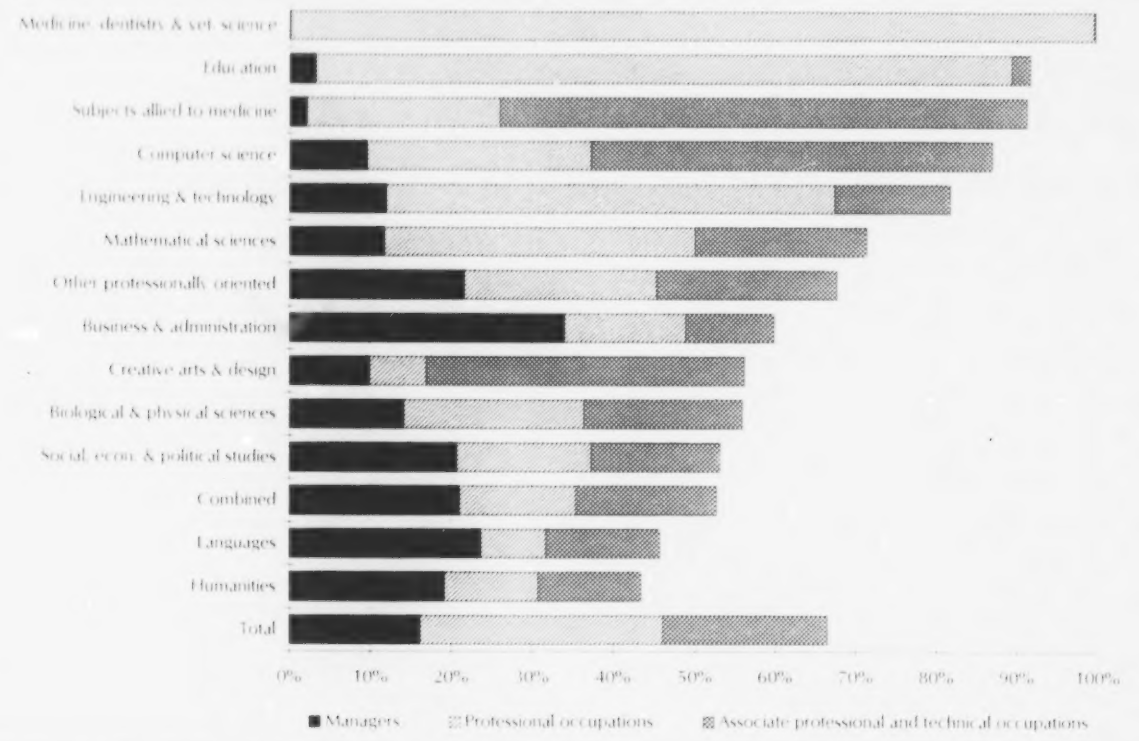
Source: IES/HESA (1997b) Figures 1b and 4f

Figure 4.4: Graduates entering employment, by employment status, 1993 to 1998



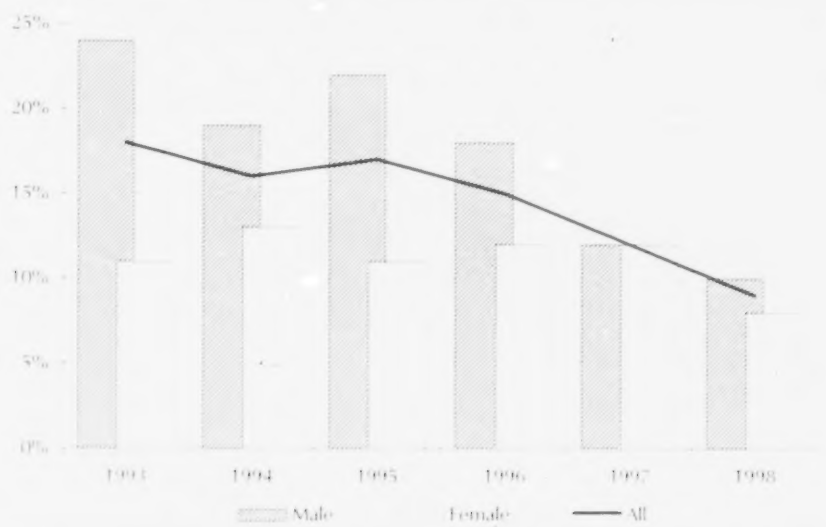
Source: IES/LFS Spring Quarters 1993 to 1998

Figure 4.5: Proportion of first degree graduates obtaining UK employment in SOCs 1-3 ('graduate jobs') by subject, 1998



Source: IES/LFS Spring Quarters 1993 to 1998

Figure 4.6: Unemployment of new graduates (ILO definitions, nine months after graduation)



Source: IES/LFS Spring Quarters 1993 to 1998

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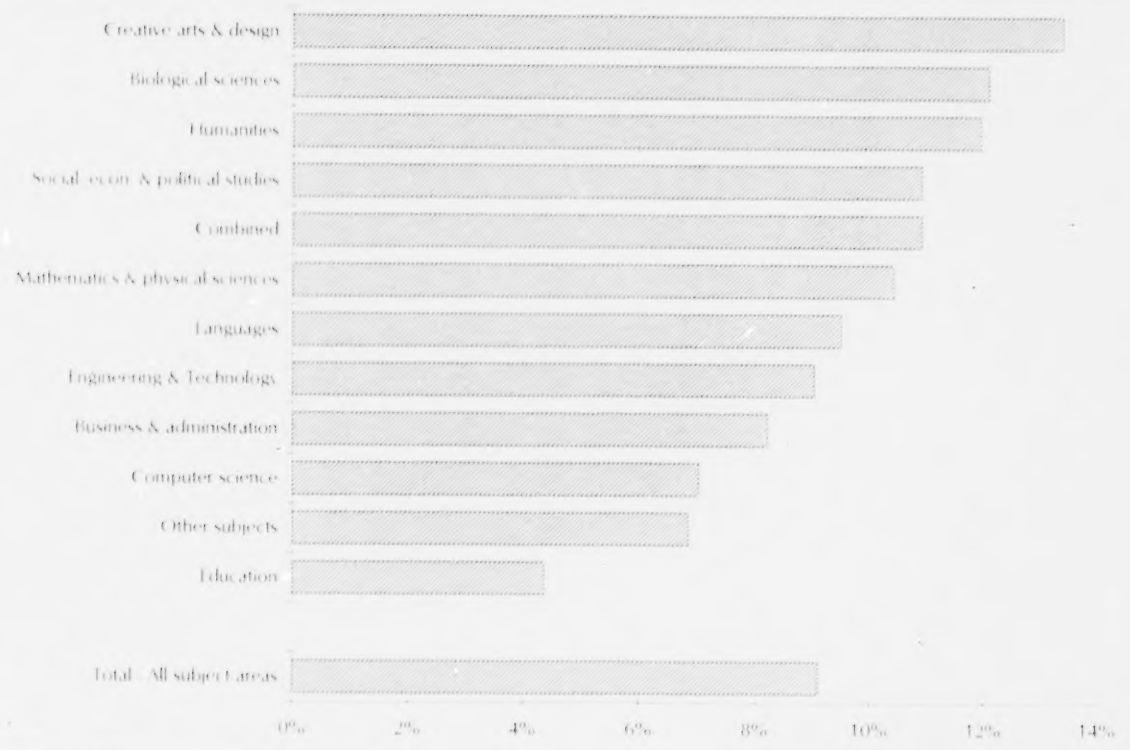
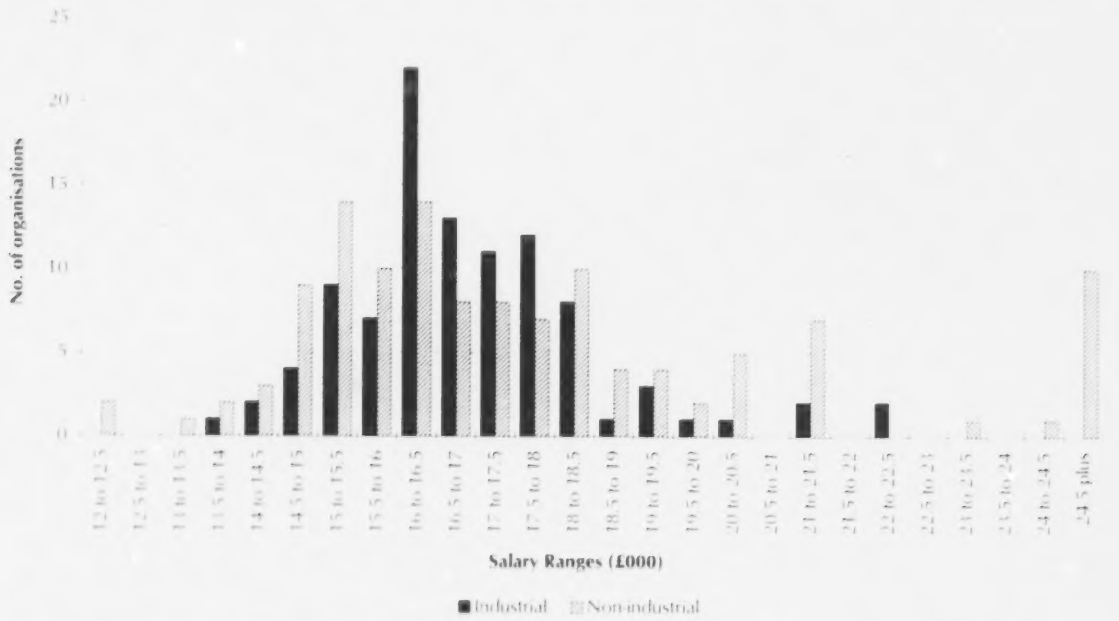
Figure 4.7: Unemployment by subject among first degree graduates, 1996/97 (ILO definition)



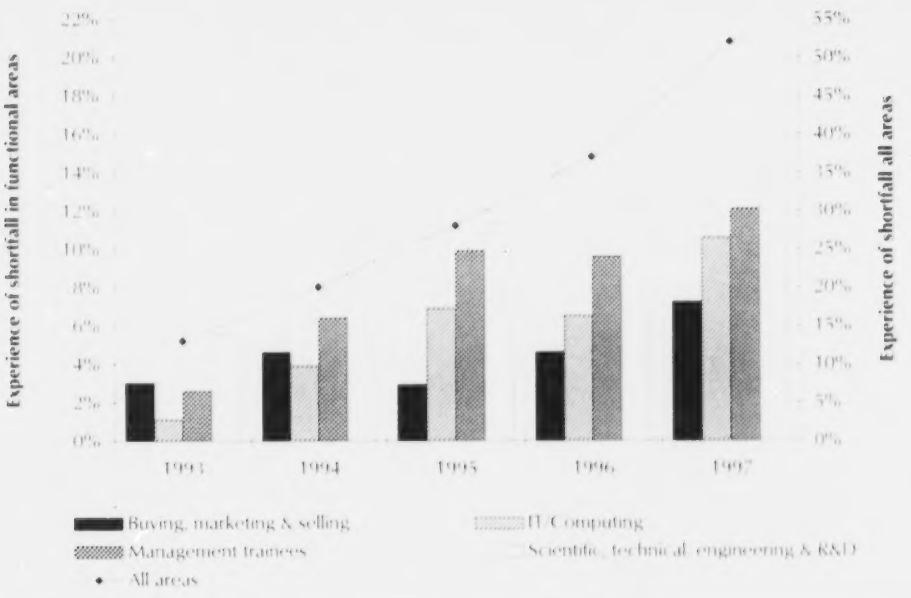
Source: IES/HESA (1998b) Figure 2f

Figure 4.8: Forecast graduate starting salaries in the industrial and non-industrial sectors, 1998



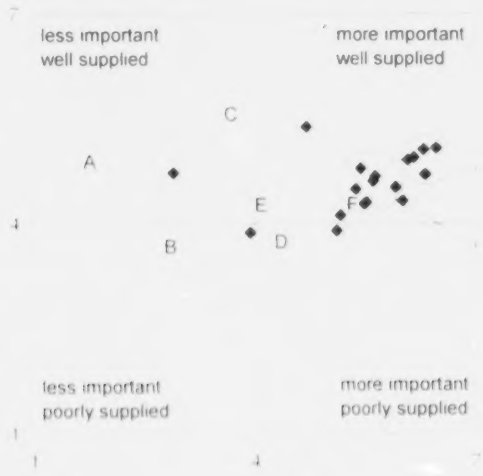
Source: IES/AGR (1998)

Figure 4.9: Organisations' experiences of shortfalls in recruitment: by function and in total



Source: IES/AGR (1998)

Figure 4.10: Graduate skills: importance to recruiters and adequacy of supply



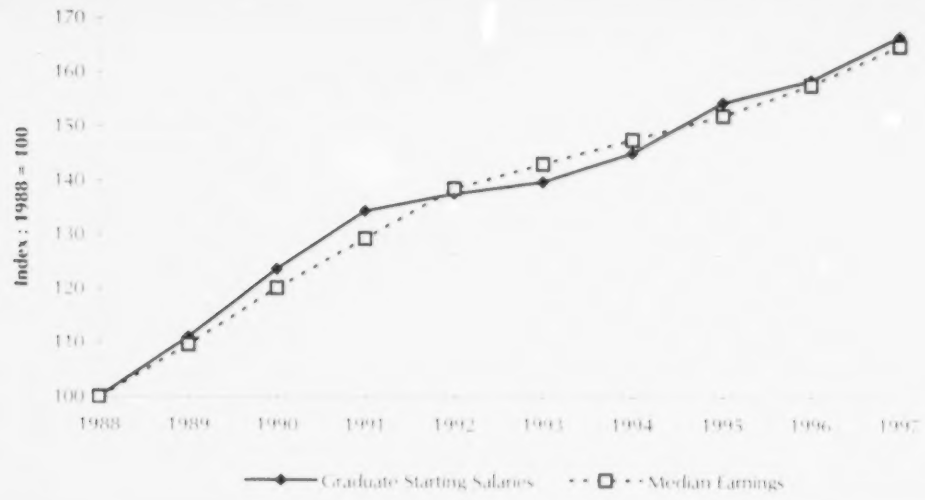
A Foreign languages
B Risk taking
C IT/Computer literacy
D Business awareness
E Leadership
F Initiative

Oral communications
Motivation
Team working
Interpersonal skills
Flexibility

Numeracy
Planning and organisation
Problem solving
Customer care
Time management
Written communications
Managing own development

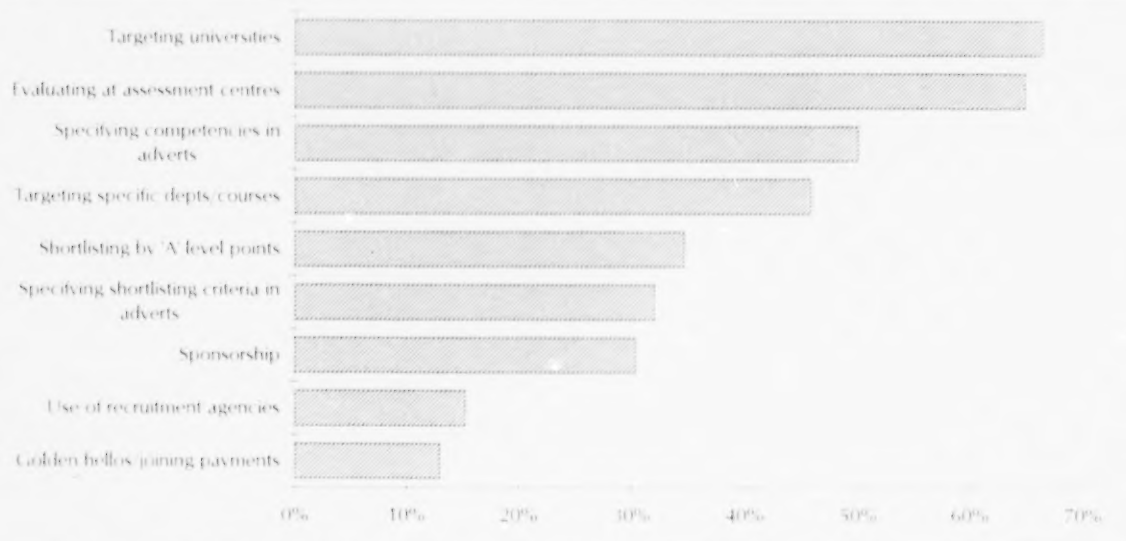
Source: IES/AGR (1998)

Figure 4.11: AGR median graduate starting salaries and median earnings 1988 to 1997



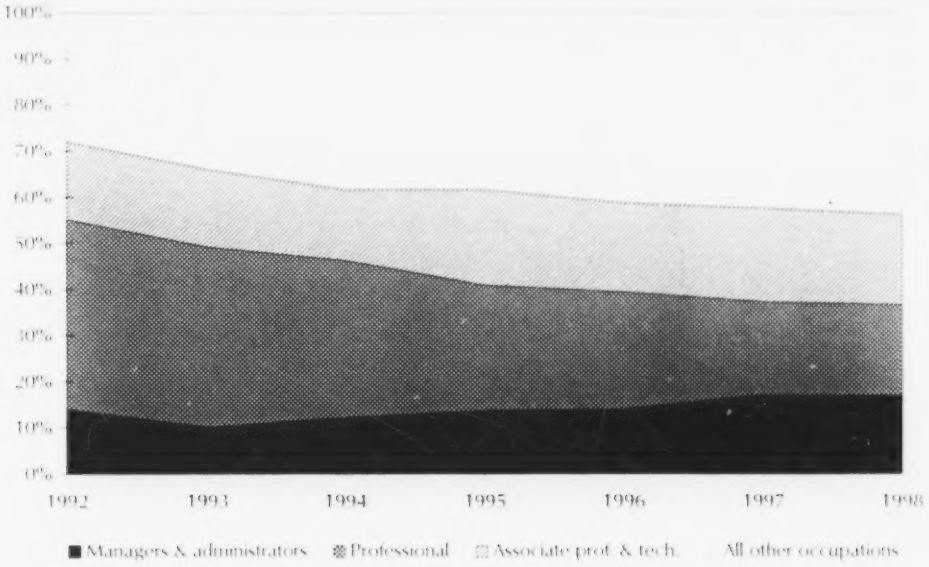
Source: IES/AGR (1997)

Figure 4.12: Graduate recruiters' current use of recruitment and selection tools, 1998



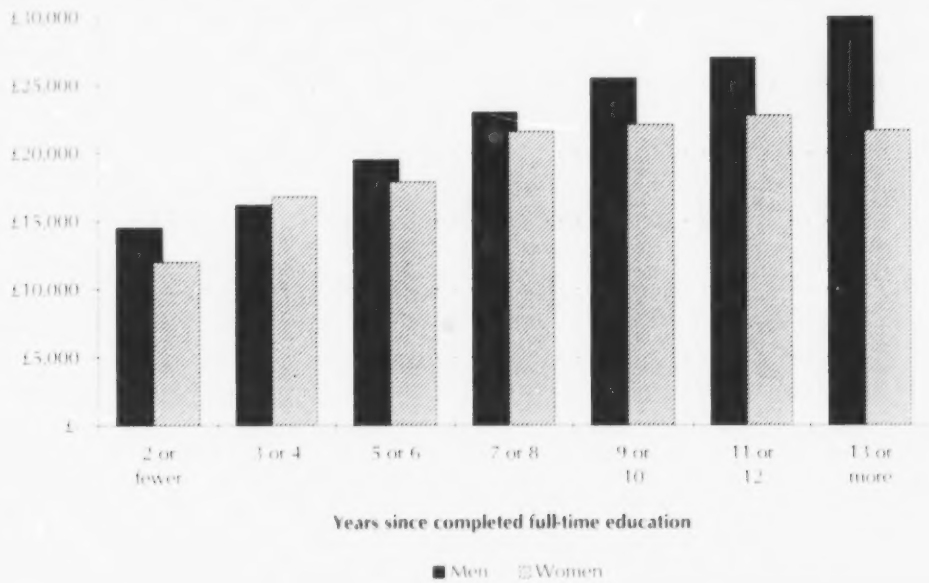
Source: IES/AGR (1998)

Figure 5.1: Occupational profile of first degree holders under 25 years of age



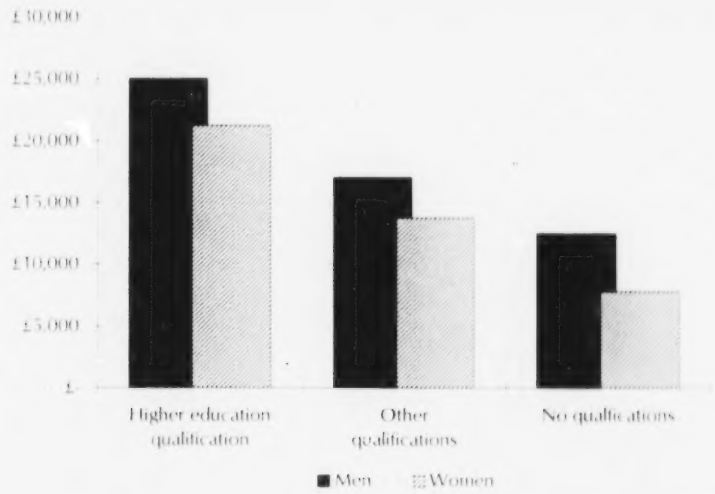
Source: IES/LFS, Spring Quarters 1992-1998

Figure 5.2: Gross earnings of first degree graduates in full-time employment, UK (annual)



Source: IES/LFS, Spring Quarter 1998

Figure 5.3: Gross annual earnings of 30-35 year olds, by highest qualification



Source: IES/LFS,Spring Quarter 1998

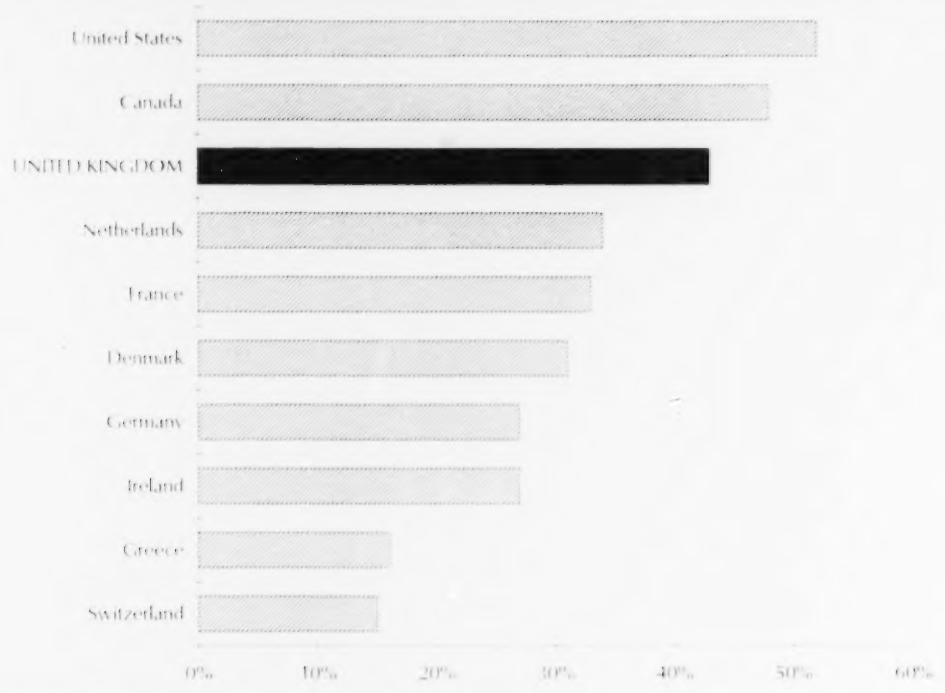
Table 5.1: Graduate salaries over time. Current salaries being paid and average salary lead over new intake

	1996 recruits*	1994 recruits*	1994 recruits**	1992 recruits**
Median (£)	17,000	21,000	21,0000	22,000
Average lead (%)	10	29	40	63
No. of employers	*203*	*196*	*59*	*43*

*Association of Graduate Recruiters. **Management Pay Review (IDS)

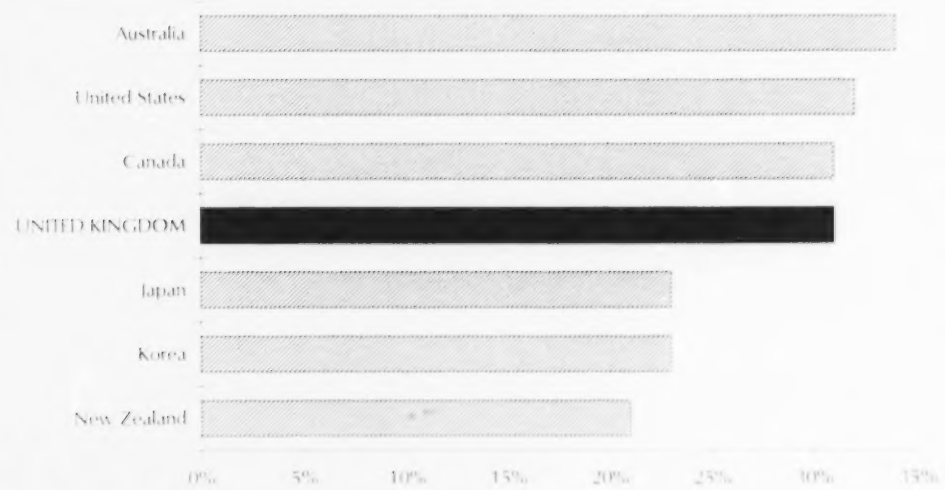
Source: IES/AGR/IDS

Figure 6.1: Net new entry rates to university level education over a school leaver's lifetime



Source: IES/OECD (1998) Indicator C4.1

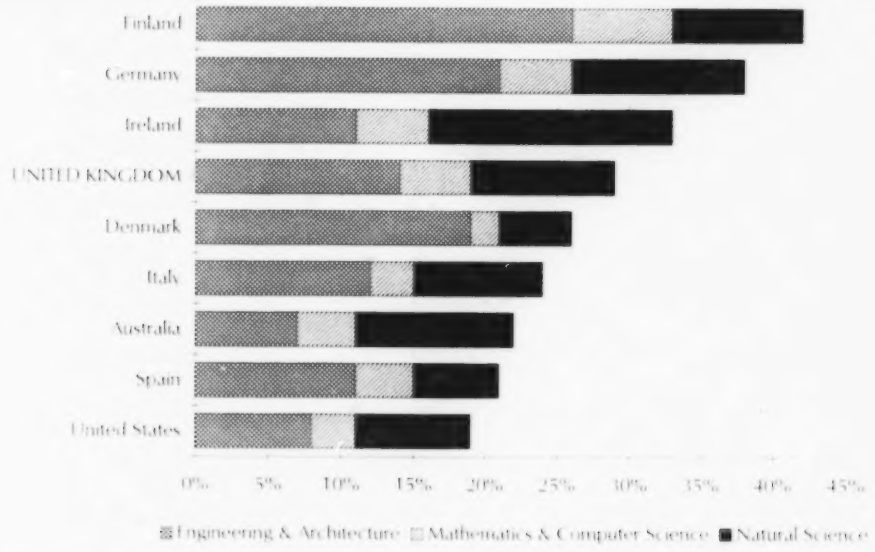
Figure 6.2: Graduation rates* for 'short' first degrees, 1995



* Note: Graduation rates are based on the numbers of graduates divided by the population at the typical graduation age

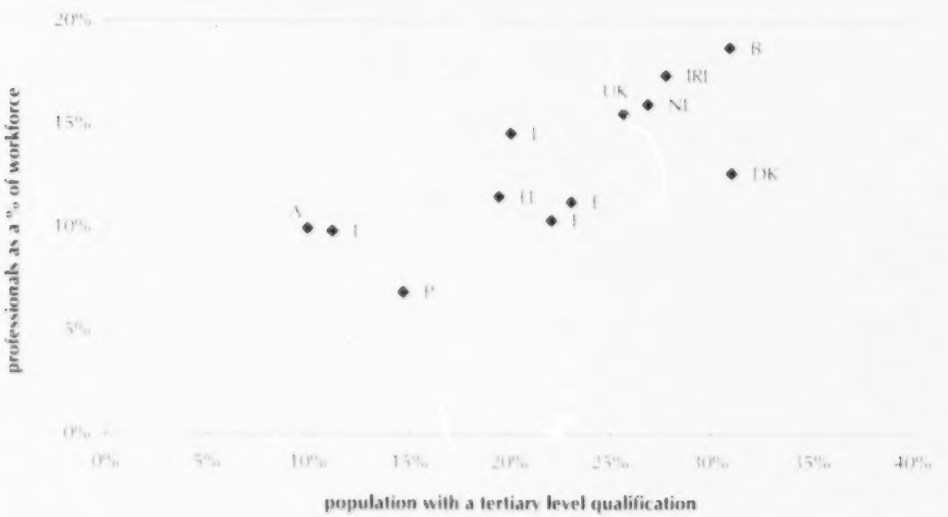
Source: IES/OECD (1998) Indicator G2.1

Figure 6.3: Science, mathematics and engineering graduates as a percentage of university level graduates



Source: IES/OECD (1998) Education at a Glance, 1997: Indicator G3.1

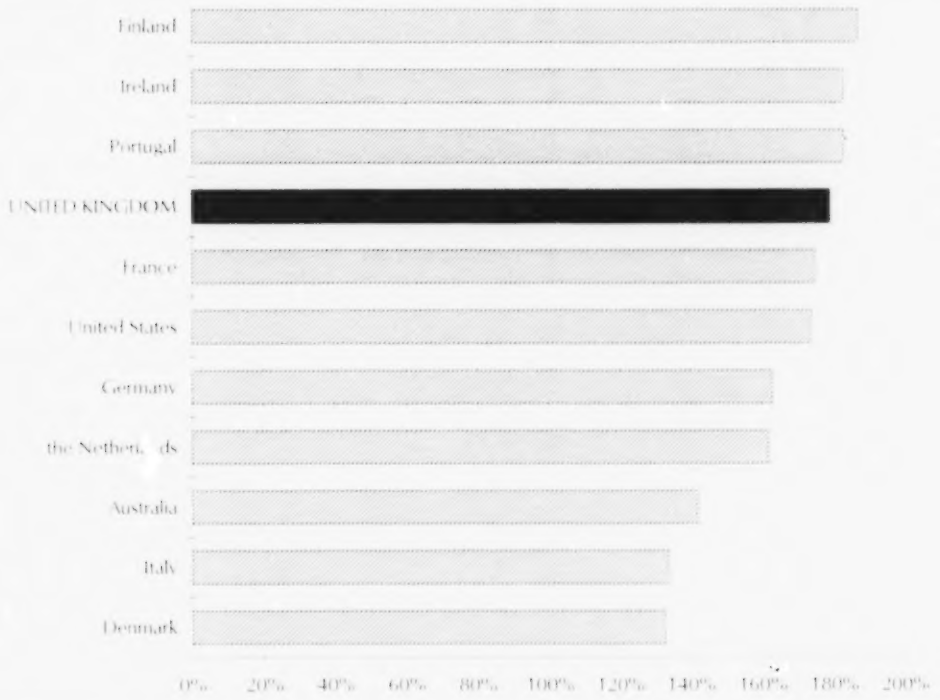
Figure 6.4: Professionals as percentage of the workforce and percentage of the employed population aged 25-59 with a tertiary level qualifications



A = Austria B = Belgium DK = Denmark E = Spain EL = Greece F = France
I = Italy IRL = Ireland L = Luxembourg NL = Netherlands P = Portugal UK = United Kingdom

Source: IES/ Community Labour Force Survey, 1996

Figure 6.5: Relative earnings of university level graduates aged 25-64 compared to those with only upper secondary education, 1995



Source: IES/OECD (1998) Indicator E4.1a

Figure 6.6: Employees* participating in continuing vocational training and percentage with university level qualifications**

* Employees excluding apprentices and trainees
** CVT covers all vocational training activities except initial training of apprentices or trainees

A = Austria	B = Belgium	DK = Denmark	E = Spain	EL = Greece	F = France
I = Italy	IRL = Ireland	L = Luxembourg	NL = Netherlands	P = Portugal	UK = United Kingdom

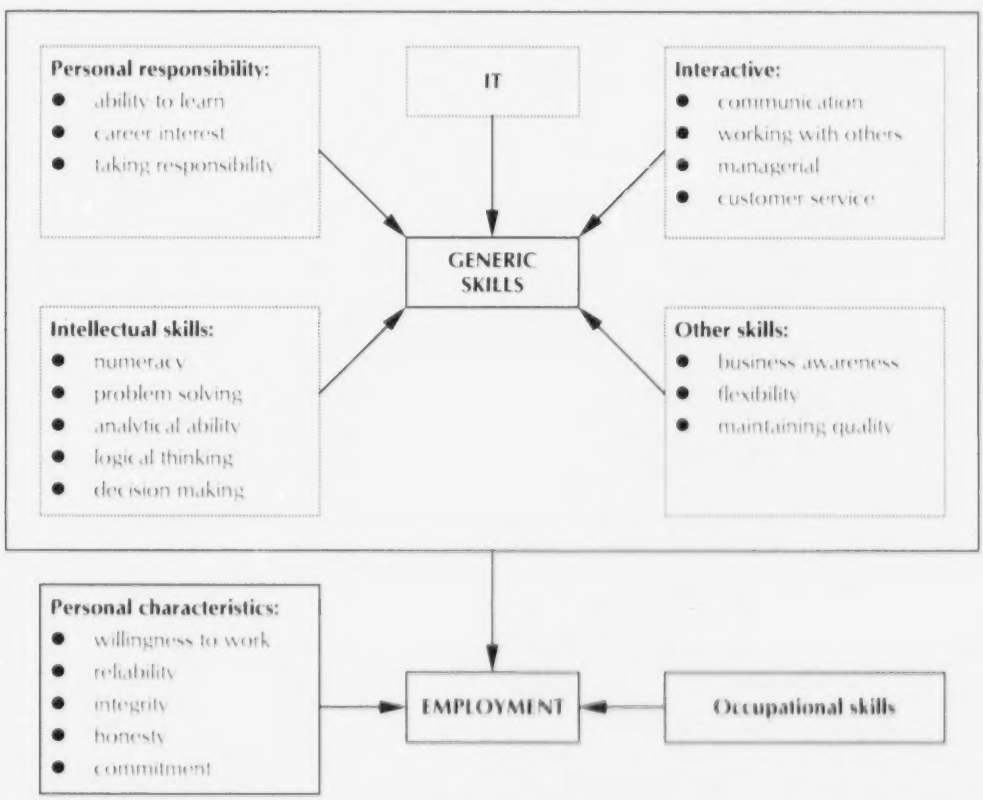
Source: IES/DfEE (1998) citing Eurostat Continuing Vocational Training Survey 1994

Figure 7.1: Projected average annual change in employment

Job change expressed as a percentage of the average stock between 1997 and 2007

Source: IES/BSL (1997)

Figure 7.2: The breath of graduate skills in demand



Source: IES

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Alan Brown, Sheena Scott, Lorna Unwin and Peter Dewe

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